Department of Science and Technology
ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE

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2011 ANNUAL REPORT

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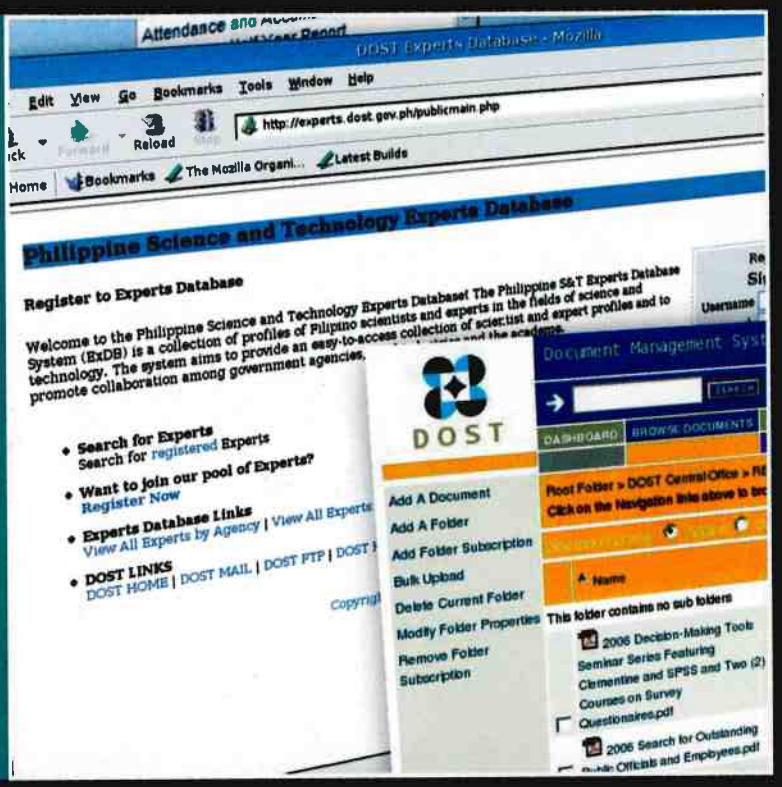
WE CREATE

ASTI UNDERTAKES RESEARCH AND DEVELOPMENT TO STRENGTHEN AND MODERNIZE SCIENCE AND TECHNOLOGY INFRASTRUCTURE IN THE COUNTRY

WE INNOVATE

ASTI DEVELOPS SIMPLE YET COST-EFFECTIVE TOOLS ACCESSIBLE TO THE LOCAL COMMUNITY



WE COLLABORATE

ASTI FORGES SYNERGY OF EXPERTISE AMONG ITS PARTNERS IN ACHIEVING ACCESS TO TECHNOLOGY FOR THE PEOPLE WHO NEED THEM

WE EDUCATE

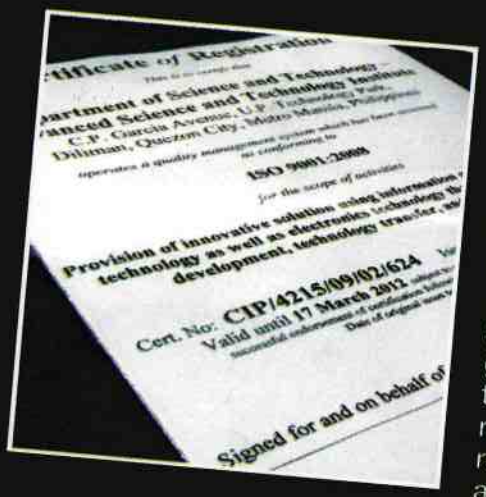
ASTI CONTINUOUSLY ASPIRES TO BECOME AN INTELLECTUAL ASSET TO THE FILIPINO COMMUNITY BY UPDATING TECHNICAL COMPETENCIES THROUGH ADVANCED LEARNING

Vision

The Department of Science and Technology - Advanced Science and Technology Institute (DOST-ASTI) shall be among the leading R&D centers in ICT and electronics within the Southeast Asian region.

Mission

We are committed to the development of the Filipino society and the Philippines as a nation. We shall contribute to the attainment of national development priorities and the growth of Philippine enterprises by providing innovative solutions using ICT and electronics technologies.



Quality Policy

We are committed to provide innovative solutions using Information and Communications Technology, as well as Electronics Technology to both the government and the private sectors with the highest standards of quality and reliability, within our capabilities and resources, according to customer and all applicable regulatory and statutory requirements, and to continually improve the effectiveness of our QMS at all times, in order to meet customer satisfaction.

Corporate Objective

The DOST-ASTI is committed to meeting its major final output targets and delivering quality products and services that meet or exceed customer requirements and expectations.

I would like to commend ASTI for its remarkable commitment to meeting the demands of the current Administration to address the pressing needs of the country.

I was right. There is no any other Agency than ASTI that can play the utmost role in fostering the national economic growth and development using information and communications technology and electronics research and development (R&D). As I have seen it, ASTI banked on its previous efforts to push a nationwide scale-up of its locally developed products and services with which, it particularly served as an economic pivot converting government projects, fast coming in, into a state-of-the-art escape for the hard-hit areas in the country, to veer away from the impact of natural disasters; state-of-the-art systems, for more efficient government operations; and state-of-the-art pedagogical wheels, moving towards a quality education for young Filipinos. Moreover, this Agency was able to maximize its capability to market itself through its rising local technology transfer endeavor and parallel collaborative research activities across the world. ASTI proved that, in any given year, the climate for innovation would always be very conducive to R&D sector.

I am proud to say that ASTI is on its way beyond the S&T sector, and that is, towards the peak of global competitiveness. It started its undertakings with a profound foundation and I am confident that, with all its sage decisions and timely use of expertise, ASTI would finish right, everything it started in 2011.

Congratulations, ASTI! I am counting on you.

MARIO G. MONTEJO
Secretary, Department of Science and Technology

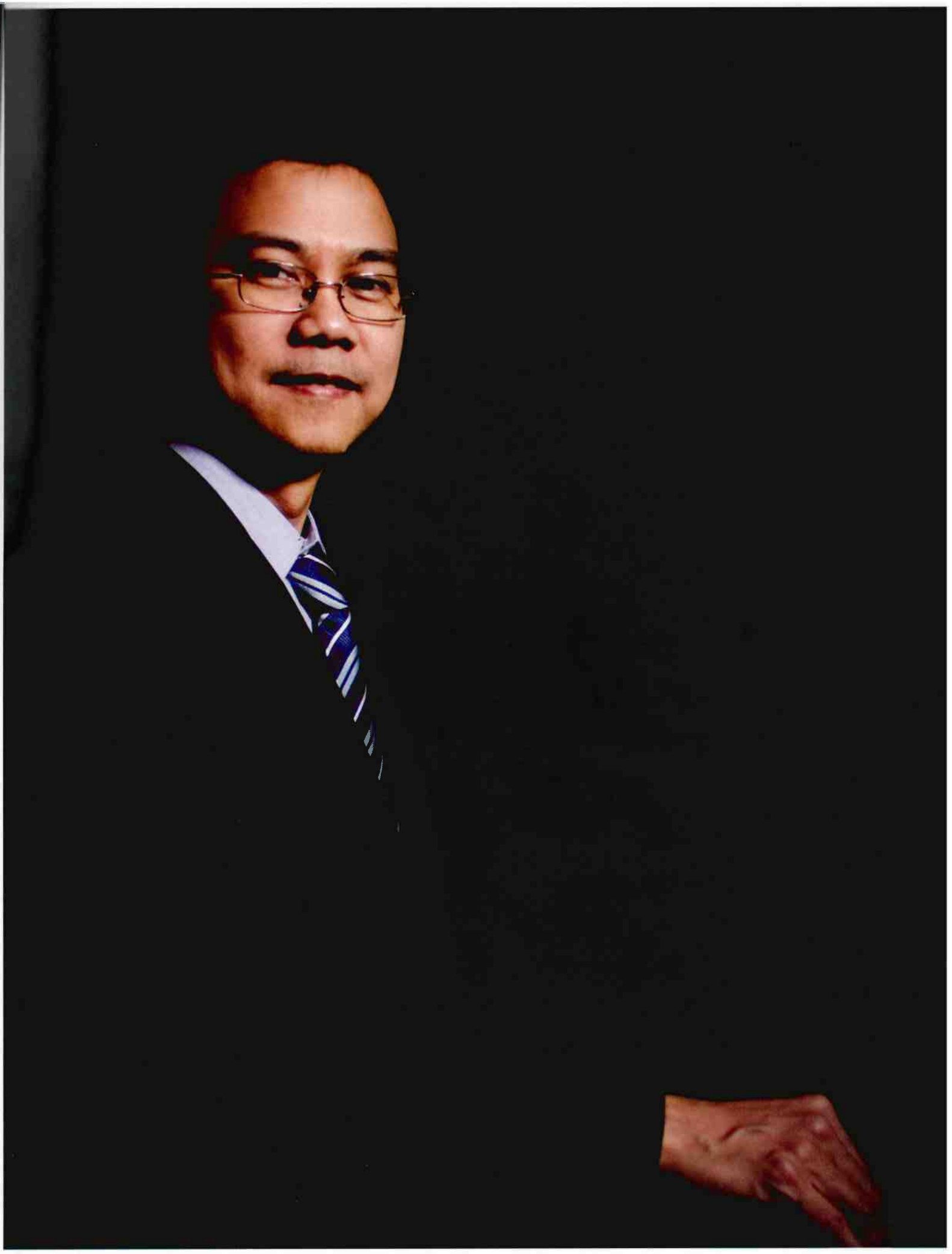
I wish to share with you another stage of development in DOST-ASTI's research and development (R&D) activities.

This year, the Agency anchored its projects on the President's priorities such as government services enhancement, poverty reduction, economic growth, and disaster mitigation and climate change adaptation. R&D projects on information and communications technology (ICT), microelectronics and embedded systems were likewise completed and continued to be implemented within the span of the year. Forward-looking, the DOST-ASTI had its entry to a wider range of economic, socio-political and environmental concerns to nourish a culture of innovation that transcends the science and technology sector. With ISO 9001:2008, these endeavors were magnified by the Agency's delivery of quality services and products, always putting customers' welfare first. It was a successful attempt for the Agency to broaden and strengthen its linkages and partnerships by walking an extra mile to keep up with the demands of local and global communities.

Year 2011 may have been a tough and uphill climb for the Agency, but it managed to take the bull by the horns. With fast emerging technologies today, such leveling up bodes well for the Agency as an RDI of the DOST, not only aspiring to be among the leading R&D centers in ICT and Electronics Technology within the Southeast Asian region, but is at par already, with competitive organizations in the world.

Our sincerest and warmest gratitude, to all those who have always had their confidence in what the DOST-ASTI can and will do.

DENIS F. VILLORENTE
Director, Advanced Science and Technology Institute



2011 HIGHLIGHTS

Year 2011 marked a continuous pursuit of the Department of Science and Technology - Advanced Science and Technology Institute (DOST-ASTI) in developing Information and Communications Technology (ICT) and Electronics technologies, products and solutions, in support of the key agenda of President Benigno S. Aquino III. Specifically, the Institute implemented various programs, projects and activities that were expected to contribute in addressing the following national priorities:

- Anti-corruption, transparent, accountable and participatory governance;
- Rapid, equitable and sustained economic growth;
- Poverty reduction and empowerment of the poor; and
- Integrity of the environment/climate change mitigation and adoption.

Aligned with said priorities are four (4) thematic areas that were taken into account by the DOST-ASTI in the identification and implementation of its ICT- and Electronics-related research and development (R&D) projects. These include e-Governance, education, enterprise development and environment.

NATIONAL SCIENCE AND TECHNOLOGY WEEK (NSTW) 2011

DOST-ASTI developed ICT products and services featured on last year's NSTW

ANTI-CORRUPTION, TRANSPARENT, ACCOUNTABLE AND PARTICIPATORY GOVERNANCE

ICT and Electronics R&D for e-Governance

With an end goal of helping the government improve its efficiency and performance, and ensure timely delivery of products and services to the clients, the DOST-ASTI took part in the implementation of the Government Integrated Financial Management Information Systems (GIFMIS), consisting of various modules, including the National Payroll System (NPS) and the Government Human Resource Information System (GHRIS). The DOST-ASTI was at the forefront of the development of GHRIS, which would be used to store and process all information related to the human resource of the Philippine government and critical to the operation of the NPS.

The Institute also initiated the development of the Overseas Filipinos Information System (OFIS), a system that would be adopted to determine the number of Filipinos overseas, at a certain time and place. It would consolidate and reconcile the databases of the Department of Foreign Affairs (DFA), the Bureau of Immigration (BI), the Overseas Workers Welfare Administration (OWWA) and the Philippine Overseas Employment Administration (POEA).

The Computerized Examination for the Civil Service Commission (CSC) is another significant project that was undertaken by the DOST-ASTI. This project would integrate the application registration and processing of results into one system and would be used by all CSC offices, nationwide.

Setting up of the ICT infrastructure vital to the Philippine Geoportal: One Nation One Map project of the National Mapping and Resource Information Authority (NAMRIA) was entrusted to the Institute. This portal would provide multi-scale basemaps that could be used by various stakeholders involved in the Philippine geospatial data.

Another activity that was pursued to enhance and expedite government processes, is the customization of the DOST-ASTI-developed management information system to suit the requirements of various agencies. This information system is a paperless transaction that allows automatic report generation, faster forwarding and tracking of documents, task management and easy retrieval of information. The Institute upholds an aspiration that higher productivity in the government translates to better public welfare.

RAPID, EQUITABLE AND SUSTAINED ECONOMIC GROWTH

ICT & Electronics R&D for Enterprise Development

With the setting up and continuous operation of the DOST-PEZA Technology Business Incubator, the DOST-ASTI, in cooperation with the DOST-Technology Resource Center (TRC), contributed to the improvement of industry performance and competitiveness by providing the infrastructure and logistics that enabled local start-up companies develop technologies and enhance productivity. This facility became an instrument in promoting technology entrepreneurship and encouraging technology-based businesses, particularly, those focused on ICT and Electronics.

The Philippine eScience grid infrastructure and its application in bioinformatics research were made available to various educational and research institutions for collaborative research purposes and to the government agencies involved in the delivery of services. This facility provides access to immeasurably large data requiring high computing power.

POVERTY REDUCTION AND EMPOWERMENT OF THE POOR

ICT & Electronics R&D for Education

Providing appropriate technology to facilitate access to quality education was another concern addressed by the DOST-ASTI. Continuous development, enhancement and deployment of the Science and Mathematics Courseware for Secondary Level Schools, Grade I Mathematics Courseware, as well as the Tablet PC were undertaken to ensure successful adoption of these technological solutions to enhance the delivery of educational services in the country.

In the field of agriculture, the Institute continued its efforts in coming up with a Field Monitoring System to modernize the acquisition of significant agricultural information necessary for crop production. Through partnership with the Philippine Rice Research Institute (PhilRice), the development and installation of the system were successfully made.

INTEGRITY OF THE ENVIRONMENT / CLIMATE CHANGE MITIGATION AND ADOPTION

ICT & Electronics R&D for the Environment

Continuous fabrication and deployment of weather sensors such as the Automated Weather Station (AWS), Automated Rain Gauge (ARG) and Water Level Monitoring Station (WLMS) were done in 2011. These sensors were intended for timely gathering of data essential for weather forecasting and flood monitoring. These undertakings were also connected to the Nationwide Operational Assessment of Hazards Program (NOAH Program) of the DOST under the Presidential directive to distribute additional weather observation stations in order to improve weather and flood forecasting in the Philippines.

Another equally significant environment-related project undertaken this year, was the development of the Meteorological Buoy. This device was intended for real-time collection of sea meteorological information for maritime safety and weather forecasting.

Finally, the DOST-ASTI assisted the Philippine Institute of Volcanology and Seismology (PHIVOLCS) in establishing a cost-effective local Tsunami Warning System. This alert system would be installed in selected high-risk coastal communities in the country to prevent possible hazards caused by tsunami.

With its increasing role in pushing for good governance, the DOST-ASTI levelled up its operational undertakings by stepping into a bigger realm of the economy, bringing in locally developed, environment-focused and scaled-up technologies and innovations and uplifting the capability of the Filipino nation towards becoming self-sustaining and globally competitive.

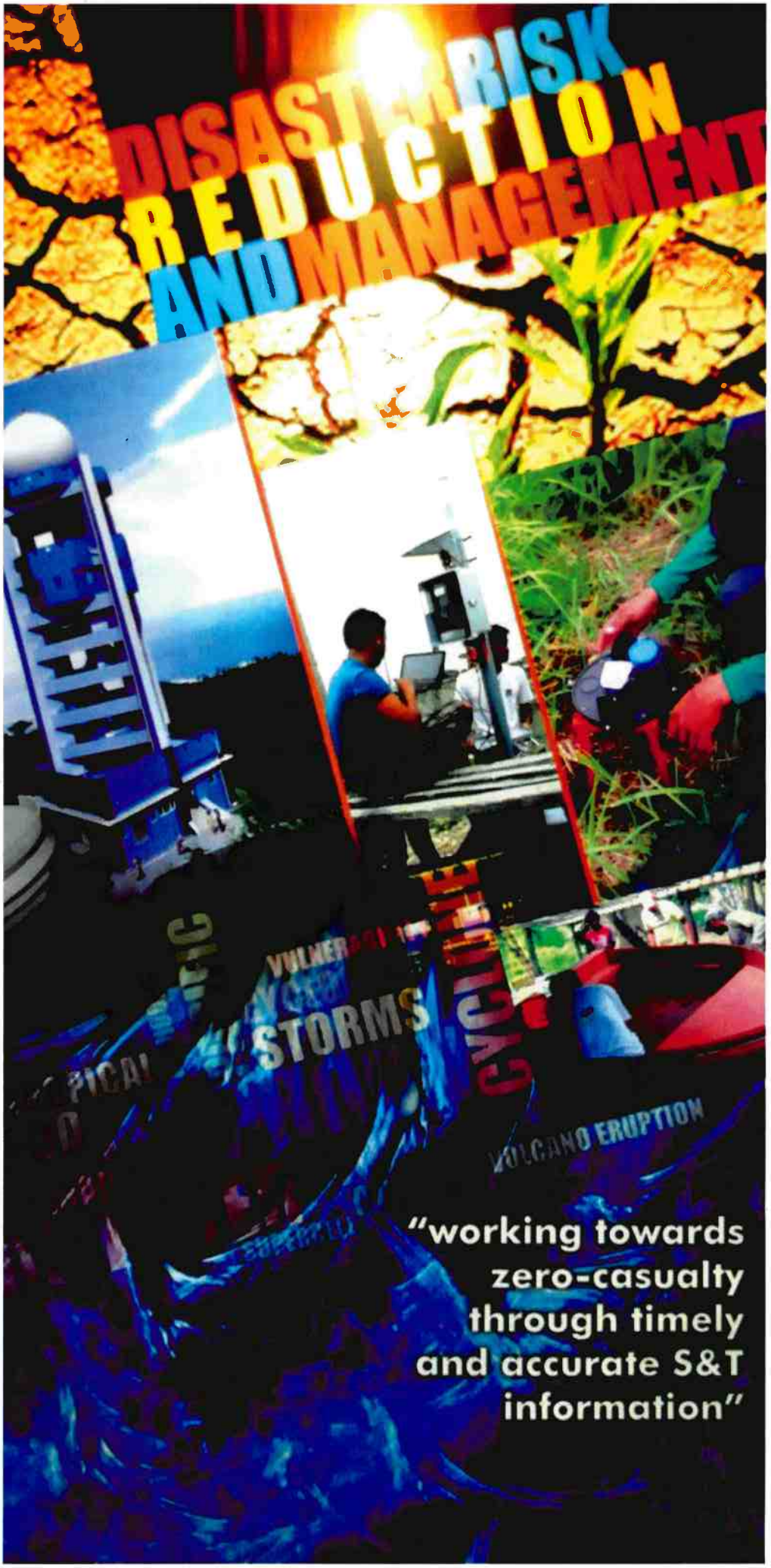
MAJOR FINAL OUTPUTS

The DOST-ASTI strategically allocates its resources in order to provide goods and services mandated to deliver to its clients. In order to ensure that these services are rendered, agency performance is quantified with the use of performance indicators. Hence, the Agency always targets the attainment of three (3) Major Final Outputs (MFOs), which directly contribute to organizational outcomes:

- MFO 1 - Research and Development (R&D);
- MFO 2 - Technology Transfer Services; and
- MFO 3 - Science and Technology (S&T) Services.

NATIONAL SCIENCE AND TECHNOLOGY WEEK (NSTW) 2011

A deployment of DOST-ASTI's locally-made automated weather station (center of collage) featured as part of DOST's Disaster Risk Reduction and Management efforts



HYBRID WEATHER MONITORING STATIONS DEVELOPED BY DOST-ASTI

(Clockwise) An automated weather station and automatic rain gauge deployed in Guimaras, and a water level station deployed at the Buntun Bridge in Tuguegarao.

1 Research and Development

In the conduct of research and development, the DOST-ASTI addressed four (4) out of the five (5) priorities of President Benigno S. Aquino. These are:

- Anti-corruption/Transparent, Accountable, Participatory Governance;
- Poverty Reduction and Empowerment of the Poor;
- Rapid, Equitable, and Sustained Economic Growth; and
- Integrity of Environment/Climate Change Mitigation and Adaptation.

In pursuit of these priorities, the DOST identified five (5) priority programs, namely:

- Solutions to Pressing National Problems: Disaster Mitigation and Climate Change Adaptation;
- Develop Appropriate Technologies to Create Growth in the Countryside;
- Harnessing Technologies to Improve Industry Competitiveness;
- Use S&T to Enhance Delivery of Government and Social Services; and
- Harnessing Emerging Technologies to Boost National Competitiveness.

Aligned with the above priorities, the Agency sustained its efforts in implementing various projects focusing on ICT as well as, Microelectronics and Embedded Systems. A total of 28 R&D projects that were carried out include:

Solutions to Pressing National Problems: Disaster Mitigation and Climate Change Adaptation

Development of Hybrid Weather Monitoring System and Production of Weather and Rain Automated Stations, *On-going*

Generating timely and accurate weather data are crucial in the country's natural disaster preparedness and mitigation measures. The project takes off from DOST-ASTI's ICT for the Environment Program, and

targets to develop and deploy a network of AWS and ARGs in strategic locations around the country. Jointly undertaken with the DOST- Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA), the project complements the DOST-PAGASA's forecasting system.

A web-based weather monitoring system was developed, whereby all data obtained from the remote stations are collected and further analyzed. The processed data are easily accessible over the Internet, in realtime. In 2011, the project was able to accomplish the following:

- Installation of 73 AWS and 31 ARGs;
- Conduct of four (4) batches of training on ARG Basic Installation, Troubleshooting and Maintenance; and
- Development of graphical data representation and visualization tools.

In 2012, the following activities shall be completed:

- Installation of the 56 shipped ARGs;
- Calibration of installed AWS and ARGs;
- Deployment of satellite communication capability;
- Project information and education campaign;
- Research and development of visualization software;
- Research and development of circuit board interface for satellite module; and
- Monitoring and maintenance of all installed AWS and ARG units.

Development of a Flood Monitoring System (implemented under the project "Development of a Field Monitoring System or FMON), *On-going*

As part of the joint initiative of the DOST-ASTI, DOST-PAGASA, Metro Manila Development Authority (MMDA), and selected Local Government Units (LGUs) to develop and deploy a flood monitoring system, a Water Level Monitoring System (WLMS) is being developed. It is a standalone system that consists of three (3) major components, namely: remote monitoring stations, communication network and data center. These monitoring stations are equipped with non-contact ultrasonic sensor that measures water level, solar panel that charges the internal battery, and a data logger which automatically collects and transmits the data wirelessly via text message in real time to the ASTI server through the cellular network. These data are stored in the server and are readily accessed via the Internet.

The project intends to deploy 50 units of WLMS in critical flood prone areas throughout the Philippines. In 2011, six (6) have been deployed in Metro Manila and seven (7) in the following areas: Port Area in Basco, Batanes; Buntun Bridge in Brgy. Buntun, Tuguegarao; Wawa Dam in Rizal; Laguna Lake Development Authority (LLDA) in Brgy. Looc, Cardona, Rizal; Lawigan Bridge and Libas footbridge in St. Bernard, Leyte; Port Area in Brgy. Walled City, Jolo. The rest of the WLMS is scheduled to be deployed in 2012.

Emergency Distribution of Hydrometeorological Devices in Hard-hit Areas in the Philippines, *New*

The project officially started on 29 December 2011. Taken from the President's calamity funds, the project targets to assemble and install 400 WLMS and 600 Automated Rain Gauges (ARG) in the following 18 river basins: Marikina; Cagayan de Oro; Iligan; Agno; Pampanga; Bicol; Cagayan; Agusan; Panay; Magaswang Tubig; Jalaur; Ilog-Hilabangan; Agus; Davao; Mindanao; Tagum-Libuganon; Tagaloan; and Buayan-Malungun.

This project is the first component of DOST's NOAH Program, which aims to reduce casualties and property damage brought about by heavy and/or persistent rainfall. Distribution of additional ARG and WLMS would enable a real-time capture of flood-related parameters within each distinct river basin to be used for forecasting and early warning.

Development of a Low-Cost and Locally-Designed Meteorological Buoy, *New*

The project aims to develop a low-cost and sustainable meteorological buoy system to help improve maritime safety and to enhance the meteorological observation system and weather forecasting capability of the country. Toward this end, two (2) moored meteorological buoys capable of measuring various parameters such as wind speed and direction, relative humidity temperature, rainfall, sea surface temperature, wave height and direction, and barometric pressure would be developed and deployed.

These meteorological buoys would be deployed at sea, approximately five (5) kilometers away from the shoreline. For effective and sustained communication, the GSM/ GPRS and satellite communication network would be utilized. The GSM/ GPRS would be used as the primary communication to lower down the cost, but the system would automatically switch to satellite communication

mode whenever the GSM network is not available.

A central server would be maintained by the DOST-ASTI where all the data acquired from the Meteorological Buoy sensors would be processed and consolidated. A management system software would be developed for data interpretation, visualization and archiving. All data would be made available to the DOST-PAGASA and the authorized users.

The project is a joint undertaking between the DOST-ASTI, the DOST-Metals Industry Research and Development Center (DOST-MIRDC), DOST's Project Management and Engineering Design Services Office (DOST-PMEDSO), and the DOST-PAGASA.

Establishment of a Cost-Effective Local Tsunami Warning System for Selected High-Risk Coastal Communities of the Philippines, *New*

The project is jointly implemented by the DOST-PHIVOLCS and the DOST-ASTI. It aims to establish a local tsunami warning system directed in warning high-risk coastal communities facing tsunamigenic trenches. The components of the system include: detection sensors; data communication system using previously developed DOST-ASTI GSM data communication modules; data visualization, interpretation, and local tsunami emergency decision tools; GSM-activated warning sirens; and capacity-building for local communities.

Project start-up activities included the conduct of a reconnaissance survey of tsunami detection sensors in Bolinao, Pangasinan. In 2012, the project is expected to undertake the following activities:

- Research on and design of interface board for the wet and dry sensors;
- Assembly of ultrasonic sea level sensors, GSM data communication modules, and warning sirens system units;
- Development, deployment and testing of rapid tsunami decision tool; and
- System integration and testing.

Quantified Flood Forecasting Through Rain Rate Estimation Using Satellite Imagery and Generalized Watershed Runoff Calculation, *Completed*

The project, a collaboration among the University of the Philippines Diliman National Institute of Geological Sciences (UP NIGS) as the lead proponent, DOST-PAGASA, and DOST-ASTI, aimed at providing a more accurate flood forecasting for a better early warning system in the country.

The DOST-ASTI was able to provide the following services for the project: access on its High Performance Computing (HPC) facility to run the rain rate software developed under the project; data storage; and web-hosted the project's website.

Nationwide Disaster Risk Exposure, Assessment, and Mitigation (DREAM) Program

The DREAM Program aims to develop a 3-D national elevation and resource information data set that would be extremely useful for risk management and disaster response. It is headed by Dr. Eric Paringit of UP Diliman's Department of Geodetic Engineering.

The DOST-ASTI is involved in two (2) out of the five (5) projects under the program:

Project 1: LiDAR and InSAR Data Acquisition, *New*

The project aims to acquire nationwide spatial data in 3-dimension (3D), which would be used to generate detailed and high resolution base and thematic maps. The DOST-ASTI would spearhead the acquisition of a Light Detection And Ranging (LiDAR) System, and Interferometric Synthetic Aperture Radar (InSAR) Data Acquisition, which would be used for obtaining spatial information and for topographic mapping. With these data acquisition equipment/system in place, collection of accurate elevation data under any weather condition could be achieved.

Project 2: Extracting Digital Elevation Models and Salient Features for Flood Modeling, *New*

The project focuses on flood modeling and flood hazard assessment. The main objective is to obtain the Digital Surface Model (DSM) of each watershed and floodplain area, and extract the Digital Terrain Model (DTM) from the derived DSM. The DOST-ASTI would enable the automation of manual processes; host data and application; and assist in data dissemination.

Improving Industry Competitiveness

Establishment of the DOST-PEZA Open Technology Business Incubator (DOST-PEZA Open TBI), *Completed*

The DOST-ASTI, together with the DOST-TRC, continues to provide business and technical coaching to the resident and virtual incubatees of DOST-PEZA Open TBI. Sixteen (16) resident start-up companies delving in software development, web applications, embedded systems, network infrastructure management, telematics and technical training, occupied 95% of the facility.

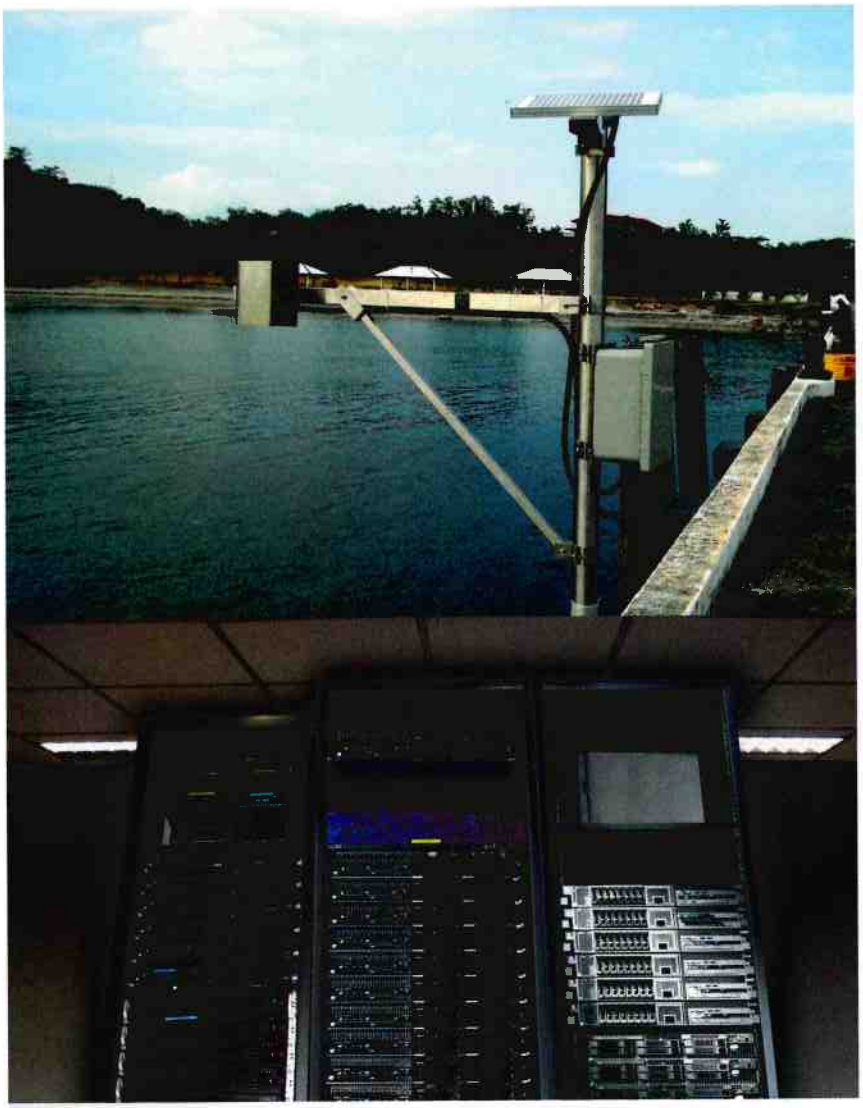
The DOST-PEZA Open TBI also started offering a virtual incubation service. Virtual incubation is for budding businesses that have established their operations elsewhere but wish to avail of incubation services to further their chances of sustainabilty and success. It also gives those working from home an alternative locale to conduct their enterprise. Under the virtual incubation, companies are given a workspace to use, in contrast to the 20 and 40 sqm. rooms used by resident incubatees.

Harnessing Technologies to Enhance Delivery of Government and Social Services

Research Study on Low-cost Computing Solutions for Primary Education, *Completed*

The project was intended to assess the feasibility of producing a low-cost tablet computer customized for primary education. A table-top evaluation of various tablet computers was undertaken in terms of hardware, software, tools, content, as well as, cost-effectiveness. The results of the evaluation was used to recommend the specifications of a tablet computer suitable for primary education.

Consultative dialogues with a National Steering Committee (NSC), created to provide expert advise to the project, were held. The NSC is made up of key people from relevant agencies including: the Department of Education (DepEd); DOST-Science Education Institute (SEI); DOST-ASTI, UP National Institute for Science and Mathematics Education Development (UP NISMED) and Ateneo De Manila University (ADMU).



(From top to bottom) A local tsunami warning system deployed in Corregidor; the HPC facility of DOST-ASTI; DOST-PEZA Open TBI located at C. P. Garcia Avenue

Development of Grade I Courseware for Tablet PC, *Completed*

In collaboration with SEI and UP NISMED, the DOST-ASTI developed Mathematics courseware intended for Grade 1 students. The project was one of the four (4) phases of the DOST-SEI's project "*Technology Package for Student Learning Empowerment: Pilot Testing of Courseware and Tablet PC*", which aimed at determining the effectiveness of e-learning materials on the improvement of academic performance of Grade 1 pupils in Mathematics, and the benefits of using tablet computers as a tool in teaching and learning the subject.

The DOST-SEI, together with experts from the UP NISMED, provided the module content for the scripts. The DOST-ASTI, on the other hand, led the digitization of ten (10) selected Grade 1 Mathematics lessons, which were used specifically for the tablet computers. The lessons were developed using Flash, Adobe Photoshop and Android applications.

The digitization of the modules was undertaken for two (2) months. The digitized lessons were uploaded to the tablet computers procured under the DOST Tablet Computers project, and are being pilot tested by SEI and UP NISMED.

Capacity-building in Support of the Pilot Testing of the DOST Tablet Computers, *New*

The project takes off from the recommendations of the "*Research Study on Low-Cost Computing Solutions for Primary Education*", and is intended to complement the DOST-SEI's project "*Technology Package for Student Learning Empowerment: Pilot Testing of Courseware and Tablet PC*". It aims to provide the needed tablet computers, applications, training and technical support to the DOST-SEI. Project activities were conducted in support to the actual pilot testing of the tablet computers to selected Grade 1 public school students nationwide.

In 2011, the project procured the required number of tablet computers, which would be deployed for the pilot testing scheduled to be carried out for school year 2012-2013. Training of participating teachers on the proper handling and use of the tablet computer and its operating system, Android, were also conducted.

The project also aims to provide the necessary first-level support after the deployment of the units to identified recipients. Consultative dialogues with DepEd and SEI, as well as, other local electronic designers and manufacturers, would be continued to further validate the design and specifications of the DOST tablet computer.

Development of Interactive Science and Mathematics Courseware for Secondary Level Schools, *On-going*

In the context of ICT for education, the project was pursued to integrate ICT into the teaching-learning process, particularly, in the high school level. It targets to develop and digitize a total of 560 Science and Mathematics courseware modules. In 2011, the DOST-ASTI completed 133 first year high school modules and 98 out of 118 second year high school modules. A user acceptance testing for the newly digitized lessons would be carried out in 2012.

Philippine Geoportal: One Nation, One Map Project, *New*

The Philippine Geoportal project is a collaborative effort of the NAMRIA, an attached agency of the Department of Environment and Natural Resources (DENR), and the DOST-ASTI. The main project deliverables include: platform for the Philippines' national spatial data infrastructure; a geospatial data center; an Internet-based mechanism for sharing of geospatial information; and a policy for the government's one-basemap advocacy.

The project start-up activities carried out in the first six (6) months of implementation are the following: procurement of interconnectivity, as well as, hardware and software components; and conducted a series of network training for the network administrators of the NAMRIA.

Development of Civil Service Commission – Computerized Examination (CSC-COMEX), *New*

The project aims to upgrade and enhance the existing CSC computer-assisted test. The CSC-COMEX is a new computerized examination system which would unify CSC's current stand-alone examination processes, starting from the processing of applications up to examination results and report-generation. The system would be implemented in a Wide Area Network environment, securing transfer of examination data between the CSC Central Office (CO) and CSC Regional Offices (ROs).

In the first six (6) months of the project, the Software Requirements Specification (SRS) document was furnished to define the purpose, scope and overall description of the computerized examination system. Systems Analysis and Design (SAD) workshops were held for the first two (2) modules of CSC-COMEX. Details of the registration and slot reservation processes and their administration were discussed and transferred into process flow and data flow diagrams, while the expected organization and content of web pages were defined through card sorting.

All gathered data during SAD were used to develop the first two (2) modules of the computerized examination system. These modules were deployed in a temporary server for continuous testing and verification. User Acceptance Testing (UAT) is already scheduled for next year and this would be participated by CSC personnel, for verification of the developed module against set requirements.

Development of Overseas Filipinos Information System (OFIS), *New*

The Office of the President, through the Overseas Preparedness and Response Team (OPRT) Technical Working Group, commissioned the DOST-ASTI to design and develop a mapping system of all Overseas Filipinos (OFs). The system called OFIS would consolidate and reconcile the databases of the DFA, BI, OWWA, and the POEA. This facility would enable OFs to register, or be registered by their representatives/relatives and have their location updated. The Philippine Embassies/ Consulates can also update the location and contact information of OFs in their area of jurisdiction.

The DFA, BI, OWWA, and POEA would set up their respective Agency Interface Server, which would be used as repository of the Agency's relevant data. These agency servers would be accessed by the OFIS central server for data updating.

The development of the OFIS modules started in July 2011. In October of the same year, a working prototype was presented to the OPRT. So far, the project has accomplished approximately 85% of its expected deliverables. The DFA, BI, OWWA, and POEA are in the process of cleaning up their databases and setting up their Agency Interface Servers for integration with the OFIS Central Server.

(From top to bottom) Sample content for Grade 1 Courseware modules: Home page of the Overseas Filipinos Information System; Sample of a tablet computer pilot tested for selected grade 1 students

Government Human Resource Information System (GHRIS), *New*

The GHRIS is part of the broader initiative called the GIFMIS, which, pursuant to Presidential Executive Order Number 55, aims to integrate and automate government financial management systems. The GHRIS is intended to store and process all information related to human resource of the government.

The DOST-ASTI was commissioned by the DBM to implement the GHRIS Phase I. The main deliverable is a prototype version of GHRIS that would be deployed and tested in the pilot government agencies in the first quarter of 2012. This initial phase focused on building up the core information necessary for the payroll processing of the NPS.

Among the activities undertaken are the following: requirements-gathering for the system design; presentation of design to the GIFMIS Project Implementation Unit (PIU) for verification and validation; conduct of briefing for the pilot agencies in preparation for the pilot testing activities; and conduct of end-user training for the pilot agencies.

Customization of the ASTI Information System

The ASTI Information System or ASTI Infosys continued to generate interest from the government sector. Among the agencies that approached the DOST-ASTI to adopt the system are the:

National Security Council (NSC), *New*

The NSC would adopt the following four (4) modules: Knowledge Management; Operations Management; Personnel Management; and Procurement and Inventory Management. These would be customized to fit the requirements of the NSC. In addition, the DOST-ASTI would provide technical assistance in the development of a Directives Monitoring module.

Technology Resource Center (TRC), *New*

The TRC would adopt the complete software modules. The following four (4) modules are being customized in accordance to the Software Requirement Specifications provided by TRC: Knowledge Management; Operations Management; Personnel Management; and Procurement and Inventory Management. Aside from this, a new module for Acquired and Corporate Assets Management would be developed by the DOST-ASTI.

On the part of TRC, they are expected to provide consultancy services and technical advice in the commercialization of this software including the development of commercialization and marketing strategies.

Office of the Solicitor General (OSG), *New*

The Office of the Solicitor General (OSG) engaged the DOST-ASTI to design, develop and customize the Document Tracking, Document Posting, and Equipment Inventory modules. This undertaking was pursued as the OSG needs a dynamic web-based application for a more convenient data management and access, and efficient performance of their administrative and monitoring functions.

DOST-Philippine Nuclear Research Institute (PNRI), *Completed*

System adoption was pursued to help the Philippine Nuclear Research Institute (PNRI) automate some of their existing processes and enhance their operation. The customization of the four (4) modules was completed in December 2011.

Customization of ASTI - Developed Equipment Inventory System for DOST Central Office (PES – ITD), *Completed*

The customization of the Equipment Inventory System module of the ASTI Infosys for the DOST-CO particularly the Planning and Evaluation Service – Information Technology Division (PES-ITD) was completed in July 2011. Coaching and mentoring of DOST systems developers and programmers was also done. To facilitate adoption of infosys, the system documentation was shared to PES-ITD, who in turn was responsible for conducting User Training for the employees of the DOST-CO.

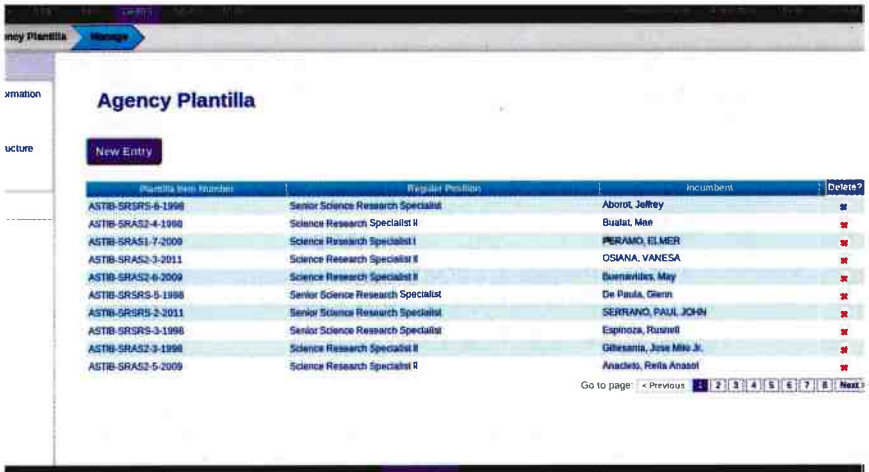
eDOST Program: Institutionalizing ICT within the DOST System

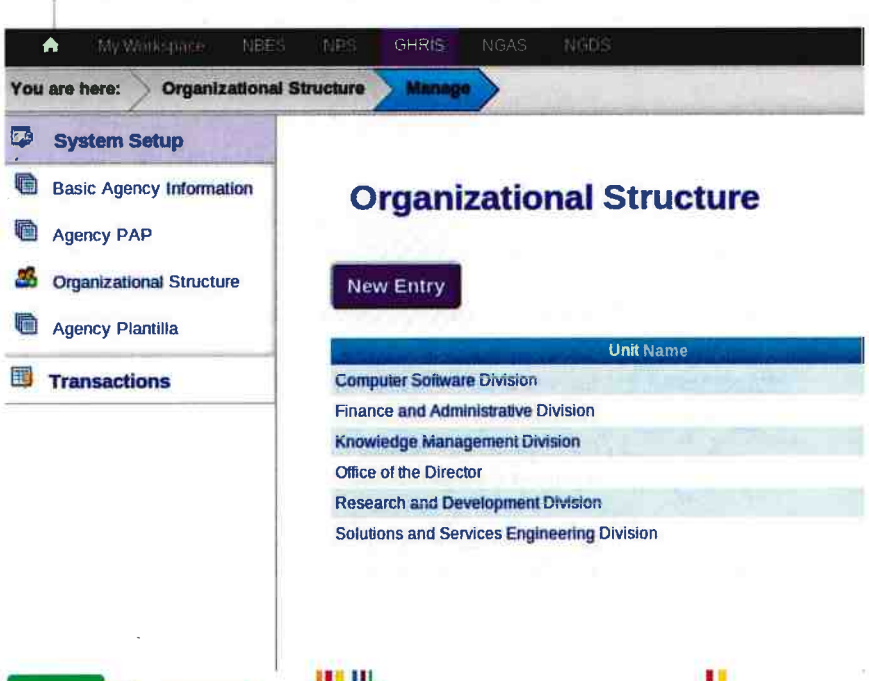
Project 1: eDOST INFRA: Upgrading of DOST ICT Infrastructure and Interconnectivity Network, *On-going*

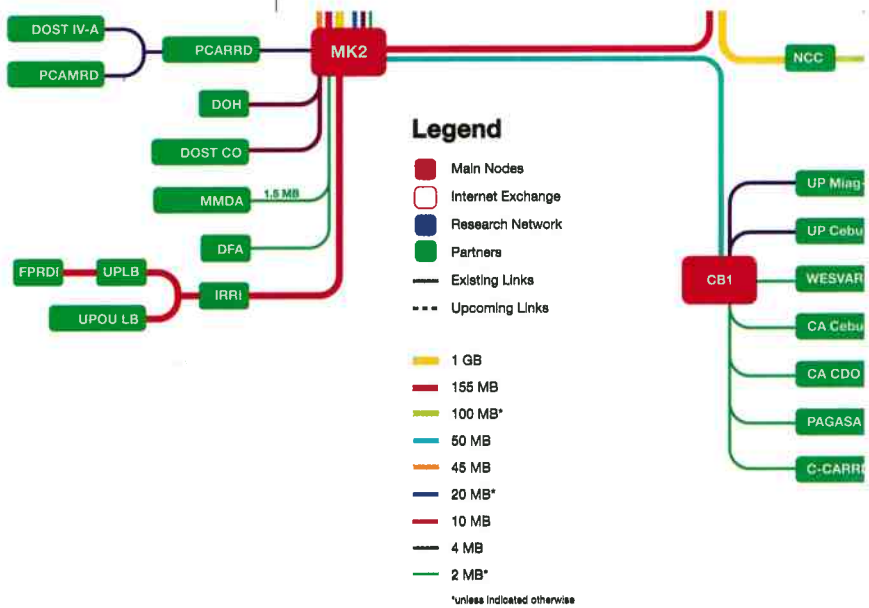
The eDOST-INFRA is aimed at providing adequate and reliable infrastructure and interconnectivity among DOST Agencies, DOST-ROs and Provincial Science and Technology Centers (PSTCs) to improve the DOST's effectiveness in performing its internal operations and delivery of front-line services to the public. This year, the project focused on rehabilitating the DOST telephone lines, as well as, visiting and monitoring the (Philippine Council for Agriculture and Aquatic and Natural Resources Research and Development) PCAARRD Regional Consortia links. The eDOST-INFRA accomplishments in 2011 include:

1. Upgrading of PCAARRD's existing data link to 4Mbps;
2. Installation and activation of the PCAARRD Regional Consortia's new data links;
3. Visit to PCAARRD Regional Consortia to conduct interconnectivity checking and VoIP reconfiguration;
4. Complete delivery of network equipment and implementation of fiber facility at the Heritage Building;
5. Reactivation of VoIP phones in DOST Bicutan Compound; and
6. Continuous monitoring and maintenance of the network service and use of DOST-Central Office, DOST-ROs and PSTCs.

The eDOST-INFRA project team, together with that of eDOST-OPEN Standards, conducted an exclusive LibreOffice Training to DOST-RO II and DOST-Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD). It likewise conducted two (2) batches of eDOST-INFRA IPv6 Training for DOST Network Administrators on 26-27 October 2011 and 23-24 November 2011.







(From top to bottom) Screenshots of the GHRIS showing the plantilla positions and organizational structure of DOST-ASTI; PCAARRD's existing link of 4Mbps as shown in PREGINET's network map

Project 2: eDOST INFOSYS: Upgrading and Development of DOST Information Systems, *Completed*

The eDOST-INFOSYS developed a DOST-wide portal of information systems that could optimize the internal operations of the Department. Through the project, the tools for dissemination, coordination and administration of timely S&T resources and services of DOST to the public, were centralized. The project also provided systems for managing key domains within the DOST such as: performance monitoring (PerforMERS); scholarship programs and scholars management (DSOIS); S&T human resources profile management (PSTHRIS); R&D projects; facilities and equipment management (DFEIS); and client/partners profile management (DCPIS). It enabled the integration of data from existing systems implemented in the agencies. Centralization of data resulted to a better way of monitoring data, standardizing reports, and increasing accessibility of resources and services via the Internet.

In 2011, systems validation, as well as, technology transfer activities were held. Through the User Acceptance Testings, the DOST users were given the opportunity to check whether the systems were functional and acceptable based on the requirements that they have set. End User Trainings were also conducted to provide the target users first hand experience on how to utilize the different systems to improve their existing processes.

The establishment of the DOST Webmasters Consortium (WMC) has paved the way to the standardization of the websites of the DOST and its attached agencies and offices. The WMC completed an important milestone through the signing of the DOST Administrative Order 002, also known as the DOST Website Policy, which highlighted the guidelines for the maintenance and continuous improvement of the DOST agencies' existing websites.

Project 3: eDOST OPEN STANDARDS: Program and Change Management and Implementation of Open Standards to DOST, *Completed*

This eDOST-Open Standards was carried out to ensure seamless adoption, as well as, effective implementation of all outputs developed under the projects of the eDOST Program.

In 2011, the advocacy activities on the use of Open Standards and Open Source Software in the DOST were carried out. The project also conducted a series of training on OpenOffice.org LibreOffice for the following agencies:

- DOST – Quezon City Cluster (PAGASA, PCIEERD, PHIVOLCS, PNRI, SEI, and TRC);
- DOST – Laguna Cluster (DOST IV-A, PCAMRD, PCARRD, and FPRDI);
- DOST RO II; and
- PCIEERD.

There were 91 participants from 12 different DOST agencies who attended the training series. Assessment of the impact of these training on both the individual and agency level was done through an online survey administered to all participants.

The project also spearheaded an Adoption and Migration Workshop for the DOST-Technology Resource Center (DOST-TRC). The Agency was able to draft a workplan on its transition to the technologies developed by the eDOST Program.

Harnessing Emerging Technologies to Boost National Competitiveness

Development of a Field Monitoring (FieldMon) System, *On-going*

The FieldMon project is undertaken in cooperation with PhilRice. The field monitoring stations developed are capable of acquiring environmental information necessary for agricultural research studies, as well as, crop production. Likewise, the device could be customized to fit the requirements of technology adopters. It could have a combination of any of the sensors for soil moisture, leaf wetness, ground water level pressure, and environmental parameters such as wind speed and direction, humidity, temperature, and ultraviolet rays. It could also be equipped with Pan Tilt Zoom (PTZ) camera for field observation.

A total of eight (8) FieldMon devices would be deployed in four (4) PhilRice stations nationwide. Three (3) units would be installed in Muñoz, Nueva Ecija; two (2) in Batac, Ilocos Norte; two (2) in San Mateo, Isabela; and one (1) in Ligao, Albay.

Boosting Grid Computing Using Reconfigurable Hardware Technology (HPRC), *Completed*

As the project wrapped up, there had been a gradual but steady uptake of research organizations appreciating and using high-performance computing. This year, the Energy Development Corporation (EDC) approached the DOST-ASTI to use the ASTI HPC Facility for their work on reservoir modeling. Use of the facility significantly improved their data generation and processing, and thus, made their work more efficient than when they were just using a desktop PC. Another group that approached the DOST-ASTI was the UP-Philippine Genome Center, which is made up of research units of all UP campuses with bioinformatics and genomics research initiatives. Their interest was on using the bioinformatics applications that are installed in the facility.

The 3rd Philippine Grid Computing Forum was also conducted, where partners and active users of the facility were invited to present their experience in using the facility and how this aided in their work.

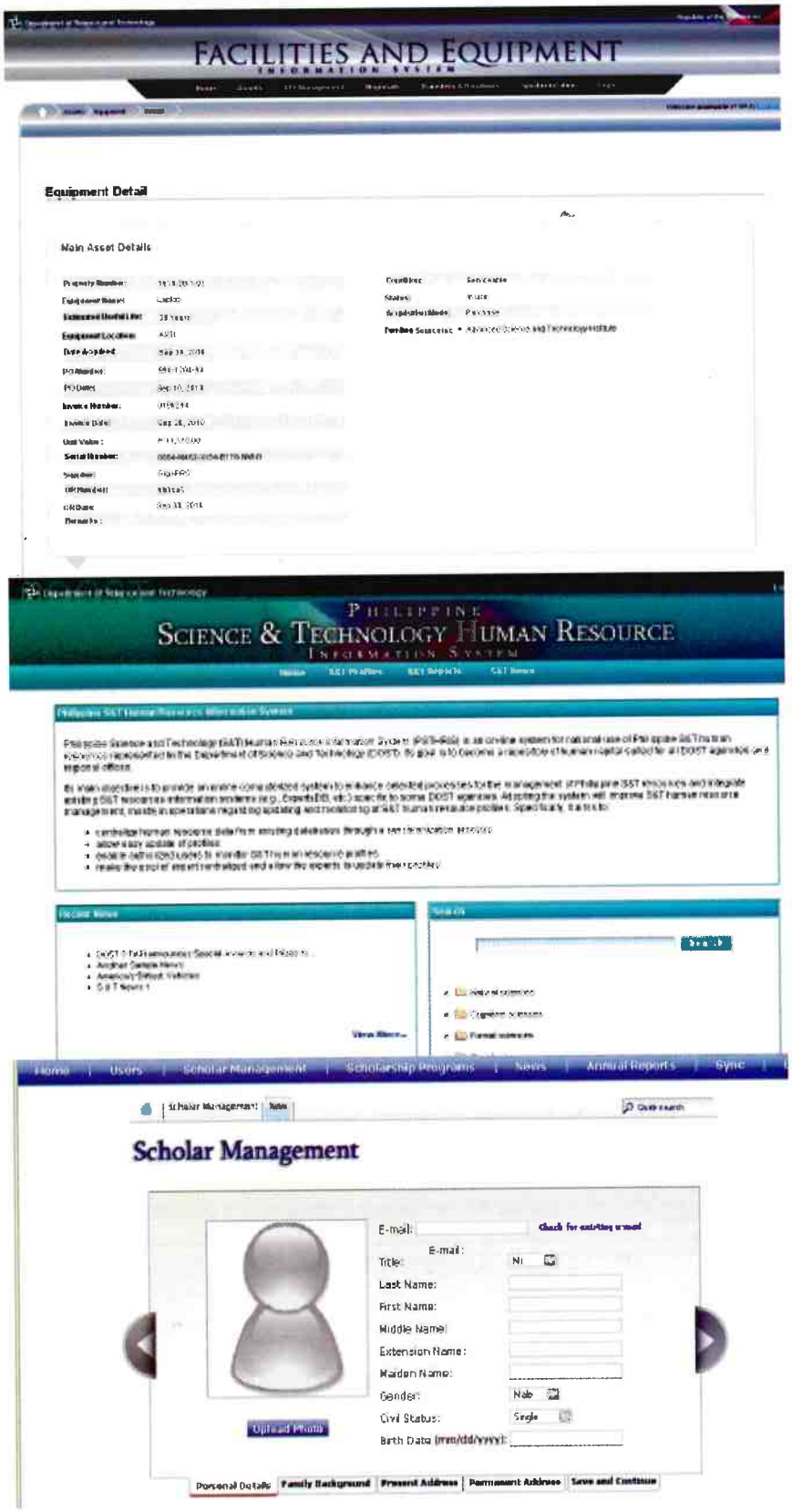
Integrative Bioinformatics: Data Warehousing for Microbial Information Access to information, *Completed*

The UPLB National Institute of Molecular Biology and Biotechnology (UPLB-BIOTECH) have partnered with the DOST-ASTI for the project. The DOST-ASTI developed a bioinformatics data warehouse for the UPLB-BIOTECH to integrate its various molecular data that could be used for data mining purposes; as well as a web interface for the data warehouse.

The data warehouse contains public domain databases such as protein sequences and active sites. It may be used for molecular target validation and development of antimicrobials for animal health. AutoDock, a molecular modeling simulation software, was installed at DOST-ASTI's high-performance computing facility. The software could be used for virtual ligand screening using the available databases of ligand and target receptors contained in the data warehouse.

Multicast Experiment using the Wideband InterNetworking Engineering and Demonstration Satellite (WINDS) Project, *On-going*

The WINDS is a collaborative project between the Japan Aerospace Exploration Agency (JAXA) and the DOST-ASTI. It facilitated the adoption of distance education for



THE EDOST INFORMATION SYSTEMS

(From top to bottom) DOST Facilities and Equipment Information System; Philippine Science and Technology Human Resource Information System; and DOST Scholarship Online Information System

regional conferences and lectures and the development of e-Learning materials for human resource development, Information Technology engineers and instructional designers. From 14 January 2011 to 16 December 2011, the UP Diliman, Tokyo Institute of Technology, and Chulalongkorn University conducted a series of midfield experiments using the WINDS infrastructure. A meeting with Japan's Association of Radio Industries and Businesses (ARIB) on the WINDS application experiments was likewise conducted in the Philippines on 13 July 2011. Said meeting was participated in, by the ARIB, DOST-ASTI and UP Diliman.

The WINDS also helped in disaster monitoring and management. The Sentinel Asia, a voluntary basis initiative led by the Asia-Pacific Regional Space Agency Forum in supporting disaster management activity in the Asia-Pacific region, used WINDS in disaster monitoring and fast data dissemination. Several disaster organizations in the Philippines acquire information from Sentinal Asia with the DOST-ASTI's assistance. A number of disaster management data were transmitted, via WINDS infrastructure, from January to December 2011. One of which was the emergency observation data of FORMOSAT, which was requested by the DOST-PHIVOLCS, on 27 December 2011.

The DOST-ASTI was visited by the officers of Japan's NEC Corporation, the manufacturer of WINDS satellite and VSAT system, on 03-04 February 2011 to conduct an indoor unit (IDU) update of the WINDS VSAT facility. The said IDU update was done to improve the stability of the IDU parameters. The DOST-ASTI was likewise visited by Mr. Kiyoshi Higuchi, JAXA's vice president and Mr. Shinichi Mizumoto, JAXA Bangkok's director, to check on the status of the WINDS satellite.

Other Priorities

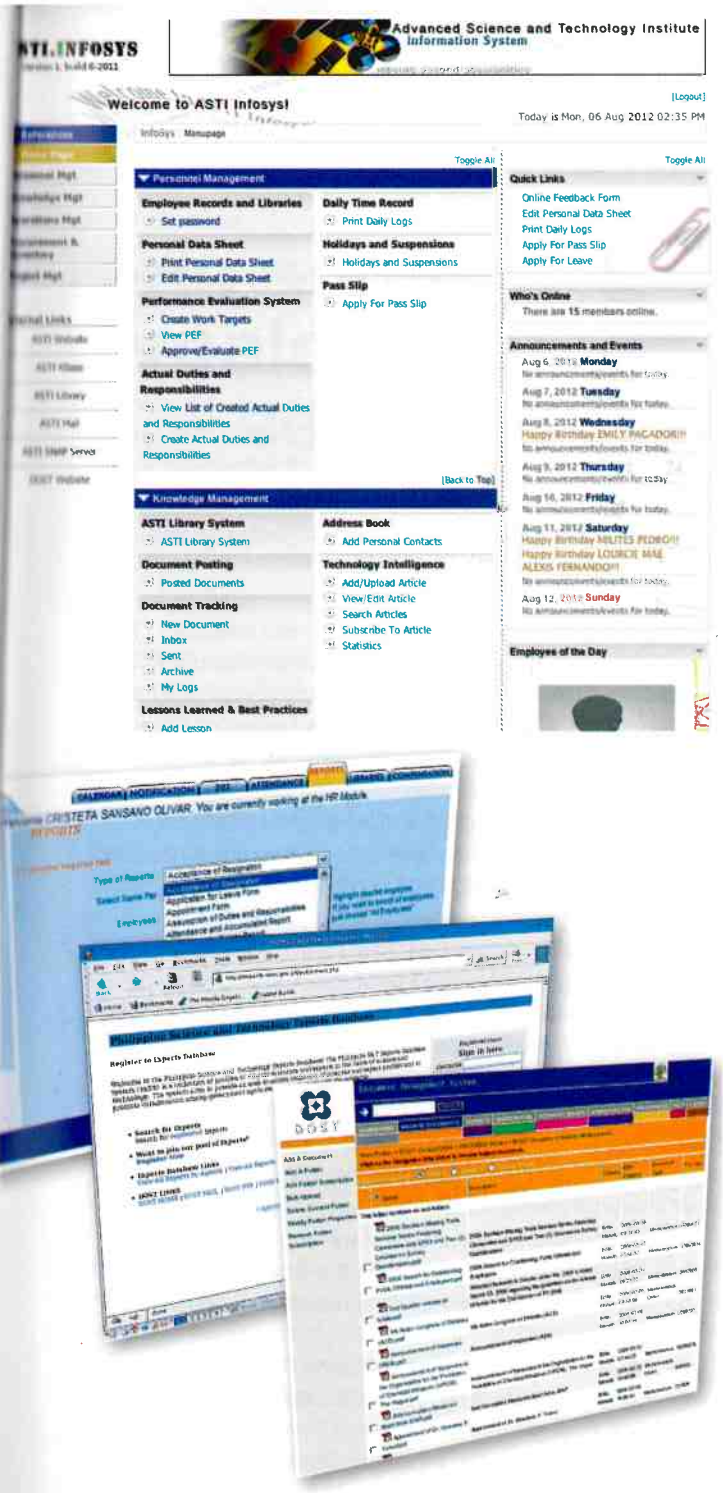
EU-Southeast Asia Cooperation Project (SEACOOP) Phase II: Support to Policy Dialogues and Strengthening Cooperation between Europe and South East Asia or SEALING, *On-going*

The DOST-ASTI, as a work package leader for information dissemination, has successfully contributed to the increasing awareness on opportunities in Southeast Asia, through wide dissemination of project perspectives and data results in the European and Southeast Asian ICT communities. It has also contributed in developing synergies with other national and international programmes through collaborations with EU and ASEAN joint programmes.

Among the activities that were held during the project duration were cooperation events on specific topics such as "*ICT for Tomorrow's Cities*" in Singapore; "*Networked Electronic Media*" in Manila, Philippines, "*E-Infrastructures*" in Brussels, Belgium; "*Internet of Things*" in Ho Chi Minh City, Vietnam; "*ICT for Inclusion*" in Phnom Penh, Cambodia; and "*ICT for Research and Development*" in Yangon, Myanmar.

Aside from the above-mentioned activities, an updated report on "Mapping Priorities of Cooperation in ICT Research Between Europe and Southeast Asia," a research Incubator in Singapore, was produced, together with a database of Excellence Research Centres in Southeast Asia.

The SEACOOP-SEALING developed links with other European-funded and ASEAN-funded programmes which led to an exchange of useful information in research. It was able to organize co-located events and plan joint activities with the same. Such programmes were the SEA-EU Net, SECAS, TIC-Asia, TEIN3, EURASIA-PAC, SYNCHRONISER, and Europe Aid. The DOST-ASTI, through the established links, was able to open an avenue connecting with the Ideal-ist, a network of ICT professionals and organizations that are finding project partners in order to participate in the EU Commission's Seventh Framework Programme (FP7). Through the project, the DOST-ASTI was also officially recognized as a National Contact Point for ICT in the Philippines by the European Commission.



COMMERCIALIZATION OF DOST-ASTI'S MANAGEMENT INFORMATION SYSTEMS

(top) DOST-ASTI's Information System home page; (below) Infosys modules adopted by other government agencies;

2 Technology Transfer Services

Technology Commercialization

The year 2011 highlighted the commercialization of ASTI-developed ARG. This device is intended to help mitigate damages caused by strong typhoons and flooding through real-time monitoring of weather changes in specific localities in the Philippines. Various stakeholders have realized the benefits that these technologies could offer, thus, the DOST-ASTI beefed up its efforts in commercializing the said product. The DOST Regional Offices, in coordination with their respective local government units (LGUs) like LGU-Molave, requested for the fabrication and installation of ARGs and the conduct of training for their personnel to address issues on flooding mitigation in their respective communities.

Furthermore, the station's data logging mechanism, specifically, the GSM/GPRS Data Acquisition Terminal (G-DAT), has also demonstrated viability for its commercialization. The UP Diliman Marine Science Institute has requested for customization of this device to aid them in data gathering for their projects.

On the software products, it was the ASTI Infosys that showed promising commercial potential. Different government agencies such as PNRI, TRC, OSG, NSC and DOST-PES adopted the modules included in the Infosys.

A total income of Php 596,720 was generated from the above-mentioned technology commercialization efforts. More technology transfer agreements covering the commercialization of the hybrid weather monitoring systems and ASTI Infosys are seen to be pushed for 2012.

Technology Diffusion

To hasten transfer and adoption of DOST-ASTI products and technologies, the Agency persistently implements various diffusion strategies such as product presentation, demonstration and launching and participation in technology exhibits. In 2011, the DOST-ASTI was able to promote its products and services to about 15,286 clients from various schools and universities, government agencies and a number of private institutions.

VIDEOCONFERENCING AND LIVE STREAMING SERVICES PROVIDED BY PREGINET

The Bureau of Internal Revenue and Department of Foreign Affairs' presentation of best practices in revenue collection and curbing tax evasion with the Chilean International Revenue Service (below) on 19 September 2011 and 14 December 2011, respectively (top) and the Commission on Audit's presentation for external audit services to the International Telecommunications Union (below).

3 Science and Technology Services

Philippine Research, Education and Government Information Network (PREGINET)

The DOST-ASTI continues to manage and operate PREGINET, the country's National Research and Education Network (NREN) with direct links to international Research and Education Networks (RENs) such as the Asia Pacific Advanced Network (APAN), Trans-Eurasia Information Network 3 (TEIN 3), School-on-the-Internet Asia and COllaboration for Network-eNabled education, Culture, Technology and science Asia (CONNECT) Asia. These connections facilitate technology exchange and international research collaboration. PREGINET also provides other value-adding services such as voice over IP (VoIP); videoconferencing; video streaming; webhosting; server co-location; network design; network monitoring and management; site mirroring; and technical consultancy and support.

PREGINET continued with its advocacy on the adoption of Internet Protocol version 6 (IPv6) in the Philippines, with the conduct of a number of training and conferences for IPv6 major stakeholders from the academe, government, and private sectors. These included:

- IPv6 Training for University of the Philippines (UP) Technical Staff (27-28 June 2011);
- Beginners Training Workshop (12-13 October 2011); and
- Two Batches of IPv6 Training for DOST Network Administrators (First Batch: 26-27 October 2011; Second Batch: 23-24 November 2011).

The PREGINET Team members also attended several conferences in which they served as resource speakers for IPv6. Among other conferences that the PREGINET Team attended, are: 1) the 2011 World IPv6 Day, which was held on 08 June 2011 at the Commission on Information and Communications Technology; 2) the Philippine Association of Private Telecommunications Companies, Inc. IPv6 Forum, which was held on 19 July 2011 at the Casino Español in Cebu; 3) the 61st Institute of Electronics Engineers of the Philippines Mid-year

Conference, which was held on 22-23 July 2011 at the Fontana Leisure Parks Convention Center in Pampanga.

Aside from its IPv6 campaign, PREGINET consistently supports e-Learning activities in the country. PREGINET, together with the UP - Diliman Interactive Learning Center, headed by Dr. Peter A. Sy, as well as, Professor Cesar S. Pineda of the Ateneo de Manila University, remotely joined the CONNECT Asia's Building a Green Society online seminar held at DOST-ASTI last 25 November 2011.

PREGINET likewise supports telemedicine in the Philippines thru its veritable collaboration with the National Telehealth Center, UP - Philippine General Hospital, Manila Doctors Hospital (MDH) and Veterans Memorial Medical Center (VMMC). It gives regular technical support to said hospitals during live surgical demonstrations, among which are: 1) First Combined Vibrant Soundbridge Hearing and Pinnal Reconstruction for Congenital Aural Atresia, which was held on 10 August 2011 at the MDH; 2) Symposium on the Somatom Definition Flash 256-Slice Dual Source Machine, which was likewise held at the MDH on 22 August 2011; and 3) Phacoemulsification Conference 2011, which was held on 26 October 2011 at the VMMC. Further, PREGINET participates in conferences to stay abreast of new technologies in telemedicine. On 16-17 December 2011, it joined the 5th Asia Telemedicine Symposium in Fukuoka, Japan.

With its expertise in technical know-how, the PREGINET Team was tapped by several agencies to provide technical assistance in videoconferencing and live streaming solutions. Among the events wherein the PREGINET Team gave its assistance are the Commission on Audit's presentation for external audit services to the International Telecommunications Union and the Bureau of Internal Revenue and Department of Foreign Affairs' presentation of best practices in revenue collection and curbing tax evasion with the Chilean International Revenue Service.

In terms of local partners, 27 institutions availed of the PREGINET connectivity and services.

Domain Name System (DNS) Administration

Administration and maintenance of the .gov.ph domain have been continuously rendered by the DOST-ASTI. As of December 2011, 2,003 activated domains were being maintained.

The .gov.ph Domain Registry site was accessed by various government agencies and organizations in order to apply for new .gov.ph domain, request for modification of existing .gov.ph domain and request for deletion of existing .gov.ph domain.

In 2011, a total of 1,361 online transactions were processed. Out of said figures, 150 were applications for new .gov.ph domain name that got approved; 587 were requests for domain modification; 130 are requests for deletion to enable the agency to apply for a new domain name; and 197 for online issuance of login information. In addition, several requests for login information and consultations from the .gov.ph domain subscribers were attended to, by the DOST-ASTI .gov.ph administrators.

Training Services

The DOST-ASTI conducted 19 training sessions in 2012. A total of 568 participants participated in these trainings, 70% of which were from the government sector, 17% from the academe, and 13% from private organizations. Most of the training conducted were customized for agencies such as Commission on Elections (COMELEC), DOST-National Capital Region (DOST-NCR), DOST-Philippine Science High School (DOST-PSHS), DOST-PHIVOLCS and DOST-PAGASA. Training collaborations with several organizations such as ISOC.PH, IPv6 Forum Philippines, DOST-Information and Communications Technology Office (DOST-ICTO), and Xavier University-Ateneo de Cagayan were also pursued to promote IPv6 technology in the Philippines.

In 2011, DOST-ASTI's annual gross income incurred from training was Php2,205,788.60, a 126% increase from the previous year's income of Php977,762.55. A significant portion of this was obtained from Basic and Advanced Network Administration Training conducted for NAMRIA personnel under the Philippine Geoportal: One Nation, One Map Project. Overall, the training provided achieved a rating of 4.12, equivalent to "*Very Satisfactory*", which indicates that DOST-ASTI was able to provide quality service to its clients through its training programs.

In 2012, the DOST-ASTI targets to hold joint training programs through its project collaborations and partnerships with the academe and government sectors. Moreover, the DOST-ASTI would also be staging the 2nd Philippine Internet Protocol version 6 (IPv6) Conference and Technical Training Workshop, which would serve as a kick-off activity for the upcoming 2012 World IPv6 Day.

Table 1. Summary of training activities conducted in 2011

Training	Date Conducted	Venue	No. of Participants	Paid / Sponsored by
2011 Philippine IPv6 Conference	Jan 24, 2011	Makati Shangri-La	84	Various personnel from Government/Academe/ Private Sectors
2011 Philippine IPv6 Technical Training / Workshop	jan 25-26, 2011	Makati Shangri-La	60	Various personnel from Government/Academe/ Private Sectors
Open Office for Beginners Training - Quezon City Cluster	Mar 2-4, 2011	ASTI Computer Laboratory	18	eDOST Open Standards Project
Open Source Network Training on Squid Proxy Administratioin	Apr 4-8, 2011	ASTI Computer Laboratory	16	PSHSS
Open Source Training on Voice over IP (VoIP) / Asterisk IP PBX Administration	Apr 11-13, 2011	ASTI Computer Laboratory	17	PSHSS
Joomla! CMS for Beginners	Apr 11-15, 2011	PAGASA WFFC Complex, Agham Road, Quezon City	16	DOST-PAGASA
IPv6 for Beginners Training	Jun 9-10, 2011	ASTI Training Room	50	Various personnel from Government/Academe/ Private Sectors
Tutorial for Linux Administration	Jun 29-30, 2011 Jul 17, 2011 Aug 4, 2011	ASTI Computer Laboratory	3	Mr. Isidro
KM Concepts, Tools and Techniques	Jul 28-29, 2011	ASTI Training Room	20	Open TBI and CSC
Shell Scripting and Ubuntu Administration	Aug 22-26, 2011	ASTI Computer Laboratory	20	COMELEC
MySQL for Intermediate Training	Aug 31-Sep 2, 2011	ASTI Computer Laboratory	20	COMELEC
Java for Developers	Sep 5-9, 2011	ASTI Computer Laboratory	20	COMELEC
PHP and MySQL for Intermediate Training	Sep 19-23, 2011	DOST-PHIVOLCS	22	DOST-PHIVOLCS
Basic Training on Linux	Oct 3-7, 2011	Geomatics Training Center, NAMRIA, Fort Bonifacio, Taguig City	25	The Philippine Geoportal: One Nation, One Map Project
IPv6 for Beginners	Oct 12-13, 2011	AVR-1, Xavier University, Cagayan de Oro City	61	With minimal registration fee: P5,800 (private); P5,300 (government)
Basic DNS / Wireless Configuration Training	Oct 26-28, 2011	Geomatics Training Center, NAMRIA, Fort Bonifacio, Taguig City	25	The Philippine Geoportal: One Nation, One Map Project
Basic Training on Routing and Switching	Nov 10-11, 2011	Geomatics Training Center, NAMRIA, Fort Bonifacio, Taguig City	22	The Philippine Geoportal: One Nation, One Map Project
IPv6 "Train the Trainers" Training Program	Nov 28-29, 2011	ASTI Computer Laboratory	22	DOST-NCR
Advanced Training on Voice over IP (VoIP) / Asterisk IP PBX	Nov 14-16, 2011	Geomatics Training Center, NAMRIA, Fort Bonifacio, Taguig City	23	The Philippine Geoportal: One Nation, One Map Project
Advanced Training on PC-based Routing, Firewall and Squid Proxy	Dec 12-16, 2011	Geomatics Training Center, NAMRIA, Fort Bonifacio, Taguig City	24	The Philippine Geoportal: One Nation, One Map Project
Total			568	

Figure 1. Distribution of participants according to sector

Table 2. Distribution of participants according to sector

Government Sector	400
Academe	94
Private	74
Total	568

Table 3. Summary of training evluations (excluding the IPv6 Conference)

Legend: Excellent:4.37-5.0; VSatisfactory:3.54-4.37; Satisfactory: 2.70-3.53; Unsatisfactory: 1.84-2.69; Needs Improvement: 1.0-1.83

Criteria	Needs Improvement	Unsatisfactory	Satisfactory	Very Satisfactory	Excellent
Speaker / Instructor	-	-	-	4.21	-
About the training	-	-	-	4.07	-
About the Laboratory Exercise	-	-	-	4.12	-
Course Material	-	-	-	4.05	-
Support Services, Facilities, and Food	-	-	-	4.24	-
Overall Rating				4.12	

Table 4. Summary of income generated and trainings conducted from 2009 to 2011

Year	No. of Trainings	Annual Generated Gross Income
2009	37	Php 4,227,834.66
2010	12	Php 977,762.55
2011	19	Php 2,205,788.60

Foreign and Local Linkages

The DOST-ASTI persists to strengthen its existing linkages with its partner institutions and forge additional partnerships through collaborative R&D projects and activities with the following consortia, institutions and organizations:

Foreign Linkages

Ministry of Agriculture, Forestry and Fisheries Information Network (MAFFIN), Japan

The MAFFIN, which operates in cooperation with the APAN, puts up online hosting to several agriculture, forestry and fishery organizations in different countries.

Since 2004, the DOST-ASTI has served as the direct termination point of the Japan-PH MAFFIN/APAN link in the Philippines. With said link, a number of research and education endeavors have been facilitated, including access to crucial data used in typhoon tracking, and e-Learning initiatives conducted between the Philippines and foreign universities. The Philippine participation in international conferences, symposia, fora and workshops via videoconferencing, as well as, the establishment of Access Grid facilities have been made possible because of subject link.

The MAFFIN continues to provide funding support for the maintenance of the country's link to APAN. To date, the link is at 155Mbps and the DOST-ASTI is looking forward to an increase of the link's capacity to facilitate more collaborative activities and handle more content.

Asia-Pacific Advanced Network (APAN)

The APAN is a nonprofit international research and education network aimed at facilitating and coordinating development, deployment, operation and technology transfer of advanced network-based applications and services in the research and education community within the Asia Pacific region.

The DOST-ASTI has been a primary member of the APAN since 2003, and collaborates with the latter in research, development and deployment of advanced networking technologies, as well as, applications for agriculture, natural resources, disaster management, distance education, among others. The DOST-ASTI fortifies its active participation by joining the APAN conferences and meetings, particularly, those which showcase tutorials, workshops and demonstrations on advanced broadband network technologies and applications.

On 22-26 August 2011, the Agency participated in the 32nd APAN Meeting, which was held at the India Habitat Center in New Delhi, India. A parallel program on the use of network in medical applications was likewise demonstrated to various APAN members worldwide, which was joined by the University of the Philippines Manila and Philippine General Hospital. Said meeting also featured a demonstration on technology teleconference, which was held at the DOST-ASTI and attended by doctors from the Philippine Heart Center's Hospital Information System and the Ateneo de Manila University.

Keio University, Japan

The DOST-ASTI's collaboration with the Keio University started in 1998, when the Agency joined in the Asian Internet Interconnection Initiatives (AI3). The AI3 is a foreign research consortium aimed at developing state-of-the-art technologies for the Internet, which includes IPv6, multimedia communication mechanism, and advanced Internet applications. It facilitates the development of knowledge-based information infrastructure in the Asian region.

Aside from AI3, the DOST-ASTI has also been participating in the University's School-on-the-Internet (SOI) Asia Project. The SOI Asia Project seeks to contribute to the development of higher education in Asian countries by:

- Utilizing satellite-based Internet to establish less expensive, easy-to-deploy and more feasible Internet environments;
- Conducting R&D of necessary technology for human resource development in Asia; and
- Performing field experiments to create new educational methodology for universities in Japan, as well as, educational institutions in Asian region.

Through its dynamic participation in AI3 and SOI Asia, the DOST-ASTI became a member of the COllaboration for Network eNabled Education Culture, Technology and science (CONNECT) Asia, a UNESCO initiative, which actively contributes to the development and improvement of research and education in Asia and the Pacific.

The collaboration between the DOST-ASTI and Keio University includes exchange of scientific information, joint research activities, mutual visits of researchers,

participation in seminars and conferences organized by respective institutions, among others.

On 25 November 2011, the DOST-ASTI, the UP Diliman Interactive Learning Center and the Ateneo de Manila University, remotely joined the CONNECT-Asia's Building a Green Society online seminar. Said online seminar aimed at improving the visibility of RENs, and increasing the awareness on the benefits of mobilizing science knowledge for sustainable development through the use of ICT. The event was comprised by a spectrum of participant groups from the Philippines, Indonesia, Malaysia, Thailand, Japan, among others.

Trans Eurasia Information Network 3 (TEIN3)

The participation of the DOST-ASTI in the TEIN initiative started in 2004 through the PREGINET. TEIN3 is the third generation of the TEIN initiaitve, and is a high-capacity, data communications network for research and education communities throughout Asia Pacific. It operates at speeds up to 2.5 gigabits per second. It supports data-intensive, time-critical applications between collaborating institutions, but can equally be used to give fast access to conventional web-based resources from all over the Asia Pacific region.

TEIN3 was launched in the Philippines on 25 February 2009, during the APRICOT 2009 Manila. To date, the country has a 45Mbps direct connectivity to TEIN3 via Hongkong. With said link, more research and education activities between PREGINET's local and international partners have been facilitated.

The DOST-ASTI continues its active participation by attending TEIN3 conferences, training, and workshops such as the TEIN3 6th Technical Committee Meeting, which was held on 19-25 February 2011, in Hong Kong.

Asia Pacific Network Information Centre (APNIC)

The APNIC is an open, membership-based, and non-profit organization. It is one of the five (5) Regional Internet Registries tasked to ensure the fair distribution and responsible management of IP addresses and related courses, which are critical for the stable and reliable operation of the global Internet. The APNIC is likewise involved in developing Internet infrastructure across the Asia Pacific region by providing training and education services, supporting technical activities like root server deployments, and collaborating with other regional and international organizations.

The DOST-ASTI's partnership with the APNIC started on 27 February 2009. The DOST-ASTI strengthens its collaboration with the APNIC by joining its activities in promoting education and training, infrastructure development and business in Asia Pacific region, training delivery, exchange of information, seminars and conferences. This year, the DOST-ASTI participated in the Asia Pacific IPv6 Task Force Meeting on 29 August 2011. Said meeting highlighted reports on the IPv6 Day experience, supporting the IPv6 uptake and transition in several countries, including India, Japan, Korea, Philippines, among others.

Japan Aerospace Exploration Agency (JAXA)

The JAXA is Japan's administrative institution responsible in performing research, development and technology utilization in the aerospace field. The Institution's activities include space transportation system, human space activities, utilization with satellites, space science research, basic technology research, aviation program, and satellites and space crafts. The DOST-ASTI, in collaboration with the JAXA, initiated a research project titled "*Multicast Experiment using the Wideband InterNetworking Engineering and Demonstration Satellite (WINDS)*". This research experiment was undertaken to verify the function and effectiveness of the WINDS facility.

Local Linkages

PREGINET

Several local linkages with research and education institutions, government agencies and private companies have been established since 2009. PREGINET persists in forging new partnerships in relation to the its connectivity and services. Its new partners include:

1. Connectivity - Ateneo de Manila University, Court of Appeals - Manila, Court of Appeals - Cebu Station, Court of Appeals - Cagayan de Oro Station, DOST-PAGASA Baguio, DOST-PAGASA Cebu, PCAARRD Regional Consortia (via eDOST-INFRA Project), and UP Open University - Diliman

2. Services - Department of Health, National Archive of the Philippines, Office of the Vice President, Partido Development Administration, Presidential Communications Operations Office, Professional Regulation Commission, and Public-Private Partnership Center of the Philippines..

Organizational Learning and Development

Knowledge Management (KM)

DOST-ASTI's KM program has continuously contributed to the organizational development of the Agency through several activities regularly held, and through the expansion of its external knowledge networks.

Among the achievements of the program were the following:

- Conduct of nine (9) Knowledge Sharing Sessions with a total of 178 participants;
- Uploading of 133 Technology Intelligence articles and 12 contributors;
- Conduct of a full KM Audit for DOST-ASTI with 123 respondents;
- Updating of the DOST-ASTI Operations Manual;
- Updating of the DOST-ASTI KBase website;
- Conduct of 3 CoP meetings with 36 participants, including the establishment of a new group Network and Systems Administrator;
- Completion of data gathering for four (4) project case studies/success stories (wood moisture meter, Boosting Grid Computing Using Reconfigurable Hardware Technology, ICT for the Environment, and K-Agrinet);
- Establishment of linkages with the Ideal-ist and the Internet Society of the Philippines;
- Drafting of two (2) project proposals for foreign funding (Scaling-Up South East Asia ICT Research Cooperation and Knowledge Transfer for Disaster Mitigation and Adaptation; and Trans-Eurasia Information Network -Disaster Risk Management Technologies Workshop); and
- Drafting of the Implementing Rules and Regulations of the Technology Transfer Act (RA 10055) and collaboration with its technical working group.

Management Information Systems

The ASTI Infosys, which consists of five (5) modules, namely: (1) Personnel Management; (2) Procurement and Inventory; (3) Knowledge Management; (4) Operations Management; and (5) Project Management, has undergone continual improvement to address bug issues and user system modification requests and to provide better usability features. Specifically, enhancements were made on the following submodules: Employee Records and Libraries, Leave Application, Pass-slip, Daily Time Record, Technology Intelligence, Document Tracking, Manage Staff Salaries, Purchase Request, Document Posting, and Room Reservation.

Also, in 2011, the use of a Model-View-Control framework for system development was explored. Conceptualization of the ASTI Infosys version 2 was likewise initiated.

Process Development

This year, the DOST-ASTI continued to maintain its Quality Management System's (QMS) certification to ISO 9001:2008. The Agency has really grown into an organization with established procedures and processes that are compliant to local and international quality standards. It has proven its dedication to providing quality service, and commitment to meeting and exceeding customer satisfaction.

On 24 February 2011, the Agency went through a surveillance audit conducted by the Certification International Philippines, Incorporated (CIPI). The following areas were audited:

- SSED
- CSD
- KMD
- RDD
- Competence, training and awareness
- Maintenance + verification of CRR-01
- Customer Satisfaction/Feedback Handling, Internal Audit, Corrective/Preventive Action + verification of CRR-01
- Purchasing + verification of CRR-02
- Management Review, Scope of Certification, Use of Certification Mark
- Property

Out of 10 areas audited, only one (1) was issued with a Nonconformity Report (NCR), which was duly addressed by a root cause analysis, correction and corrective action undertaken by the Process Owner concerned, in coordination with the ISO Technical Working Group (TWG). Findings, clarifications and recommendations were reported to the Core Group (top management). Subject NCR was perceived as another window to further improve the operations of the Agency. In fact, within the audit cycle, nonconformities found, went from three (3) in 2010, down to only one (1), this year, showing a continuous improvement in the implementation of the Agency's QMS. Although the rating of DOST-ASTI's QMS decreased from 4.56% during the first half of the year, to 4.40% on the second half, in light of a low turnout of customer feedback, it has retained an overall "*very satisfactory*" rating.

To institutionalize familiarity and further appreciation of ISO 9001:2008, and ensure that standards are clearly understood, the QMS properly implemented, and competence sustained, the ISO TWG saw to it that its members were able to attend annual external trainings/ seminars, which they could echo to the Agency staff for introduction to new employees and refresher to the incumbents. This year's ISO activities included:

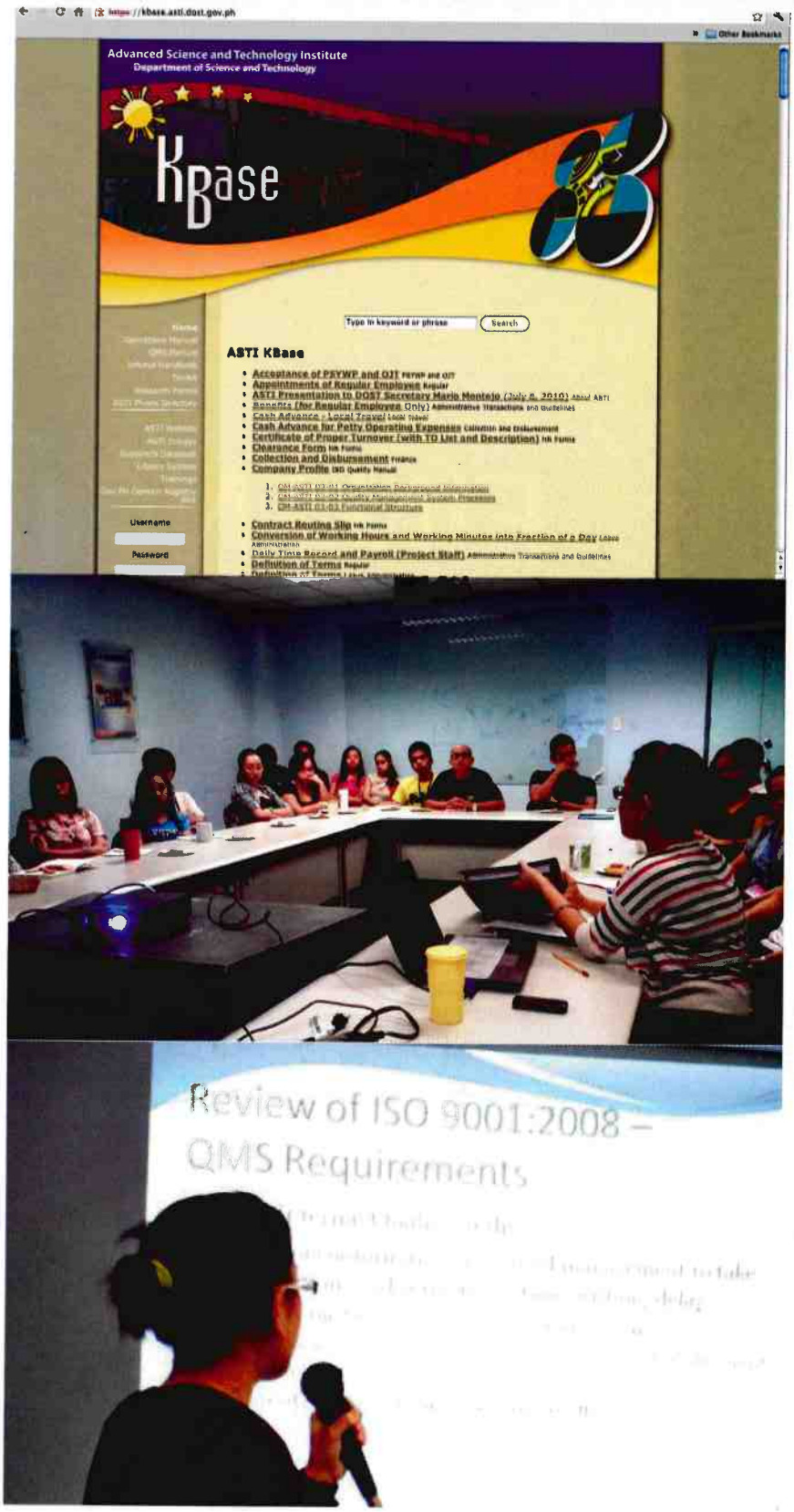
External Workshop/Training

- Effective Internal Quality Audit (IQA) Report Writing, 30 March 2011;

In-house Workshops/Trainings

- Echo Seminar on Effective Internal Audit, 19 January 2011;
- Writeshop on Audit Checklist, 28 January 2011; and
- Echo Seminar on IQA and Effective IQQA Report Writing, 23-24 August 2011.

As the Agency aims at increasing productivity, it continues to uphold correct information, competitive services and growing customer satisfaction. The validity of the certification to ISO 9001:2008 conferred by the CIPI to ASTI's QMS, would end on 17 March 2012. Hence, the ISO TWG has started its efforts already, to ensure that a recertification gets facilitated upon said expiration.



(From top to bottom) The DOST-ASTI Kbase home page; an ISO knoweldge sharing session for new ASTI staff; and an in-house ISO echo seminar on IQA and Effective IQA Report Writing

FINANCIAL & HUMAN RESOURCES MANAGEMENT

As support service to the execution of the core functions of the DOST-ASTI, the overall management of financial resources in 2011 allowed a timely mobilization of the Agency's projects, as well as, fast service delivery. Such coordinated efforts to attain the Agency's R&D objectives were even amplified by the increasing competence level of staff through DOST-ASTI's continuing pursuit for human resource development. These support systems are, therefore, critical to easing the execution of the core operations of the entire organization.

Financial Resource

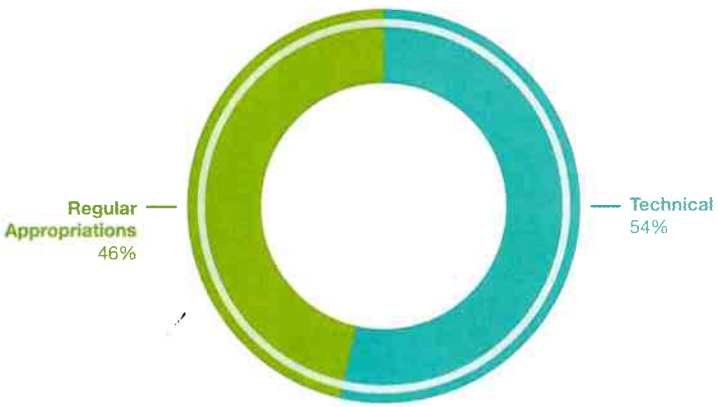
In CY 2011, the Institute has generated a total funding of P138,567,790.56. Of which, about 93% or P128,666,439.41 was spent as of December 31, 2011. Summarized below, is the fund utilization:

Table 1. Utilization Summary for 2011 (in Philippine Peso)

Particulars	Allotment	Obligations	Balances	% Utilization
A. Current Year's Allotment				
1. Regular Appropriations	53,997,000.00	51,958,415.77	2,038,584.23	96.22%
2. Special Purpose Funds	.00	.00	.00	
3. Other Releases	63,216,792.00	56,016,154.87	7,200,637.13	88.61%
Automatic Appropriations-Retirement & Life Insurance Premiums	2,643,645.00	2,306,369.76	337,275.24	87.24%
MPBF	9,680,958.00	8,391,392.37	.00	86.68%
ASA	50,892,189.00	45,318,392.74	1,289,565.63	89.05%
Fund 171	.00	.00	.00	
Sub-Totals	**117,213,792.00**	**107,974,570.64**	**9,239,221.36**	**92.12%**
B. Prior Year's Allotments (Continuing)				
1. Regular Appropriations	62,969.31	.00	62,969.31	0.00%
2. Other Releases	21,291,029.25	20,691,868.77	599,160.48	
ASA	21,276,326.40	20,691,868.77	584,457.63	
Fund 171	14,702.85	.00	14,702.85	0.00%
Sub-Totals	**21,353,998.56**	**412,175.75**	**662,129.79**	**96.90%**
Grand Totals	**138,567,790.56**	**128,666,439.41**	**9,901,351.15**	**92.85%**

Aside from the Institute's 2011 GAA, a considerable amount was received from other funding sources like the DOST Grants-in-Aid Program. Majority of the grants were from the fund transfers/ sub-allotments of the DOST Central Office which were intended for the various R&D projects being implemented by ASTI in support of the priority programs of the DOST and the Aquino administration.

Figure 1. Summary by Fund Source

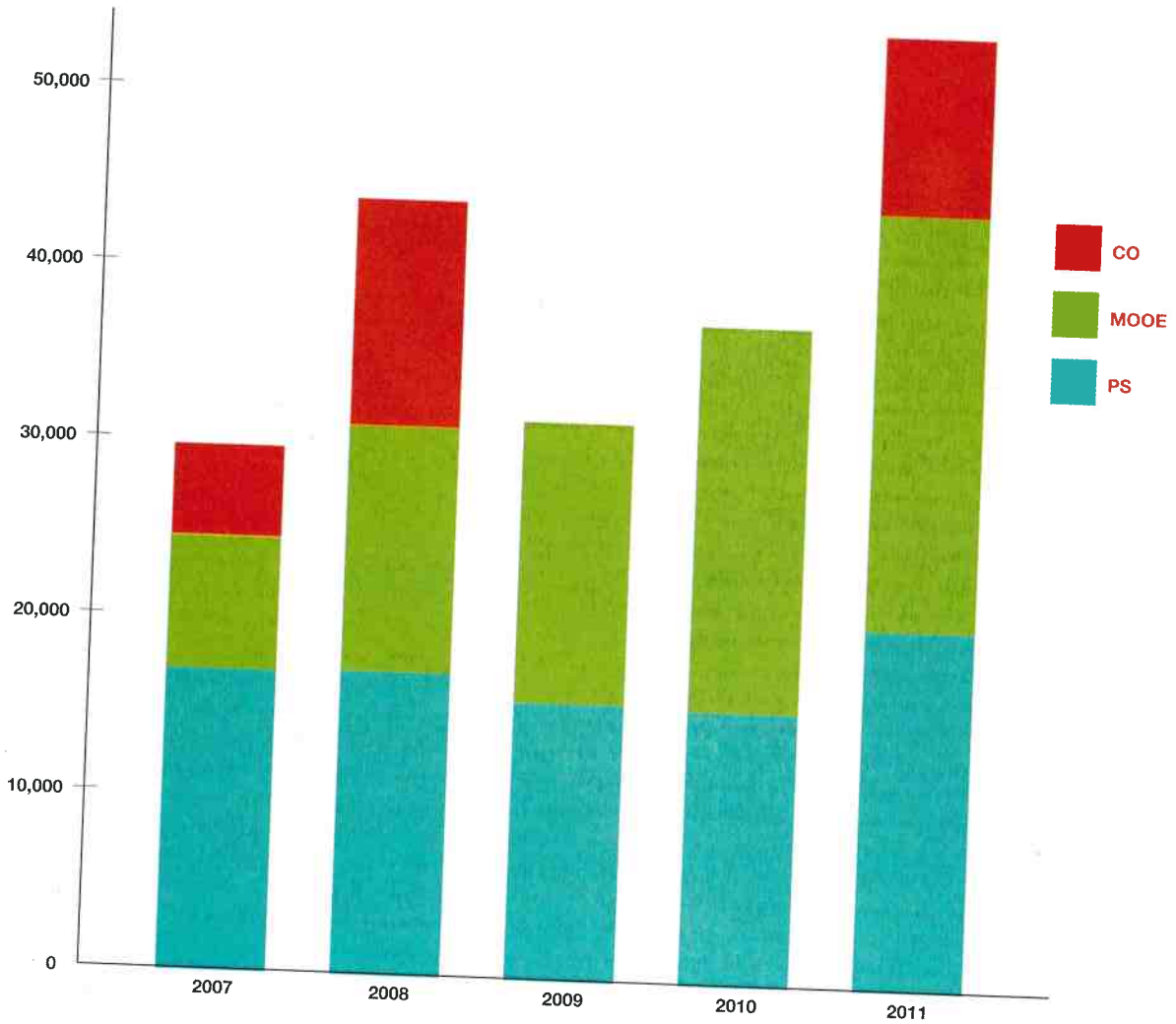


While comprising 52% of DOST-ASTI's total available allotment in CY 2011, the utilization rate of GIA-funded projects soared at 91.47%. Shown below, is the comparative summary of the annual appropriations made to DOST-ASTI (regular budget).

Table 2. Annual Budget (in thousand pesos)

Fiscal Year	PS	MOOE	CO	Total
2007	17,042	7,508	5,195	29,745
2008	17,177	13,893	12,804	43,874
2009	15,684	15,896	0	31,580
2010	15,492	21,795	0	37,287
2011	**20,383**	**23,549**	**10,065**	**53,997**

Figure 2. Comparative Annual Appropriations



Human Resource

In 2011, five (5) positions were created for the DOST-ASTI, thereby increasing its personnel complement from 67 to 72. The additional positions were requested by the Institute to enable it to deliver more products and services, while sustaining those which are existing.

It may be noted that the excellent performance of the DOST-ASTI human resources in providing innovative solutions in ICT and electronics has led to an increase in the demand for its products and services that are both supportive of the priorities of the DOST Secretary and the President. In addition, more collaborative efforts with other government agencies gave the Institute new opportunities to contribute to the development of the country.

The additional five (5) positions include the following:

No. of Position	Position Title
2	Senior Science Research Specialist
2	Science Research Specialist II
1	Accountant I

Figure 3. Personnel Distribution (by job function)

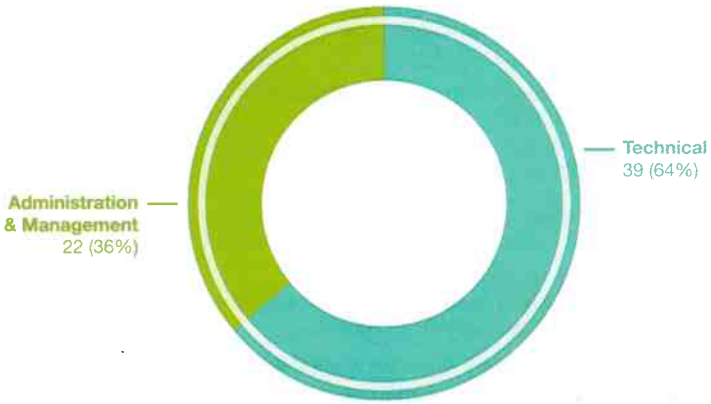
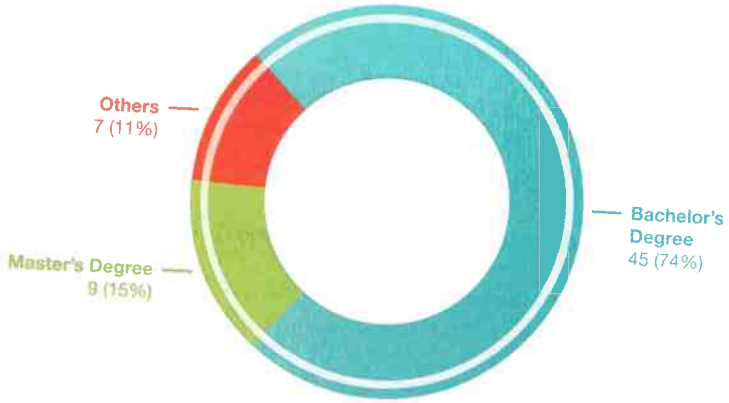


Figure 4. Personnel Distribution (by job gender)

Figure 5. Personnel Distribution (by age group)

Figure 6. Personnel Distribution (by educational attainment)



Aside from additional manpower, another way for the DOST-ASTI to cope with the demand of its mandate, is through the continuous improvement of the skills and technical know-how of its employees. Below, are some of the trainings attended by DOST-ASTI personnel:

Table 3. Trainings attended by ASTI Personnel

Title	Participants	Date	Venue
Pollution Control Officer's Training Course	May Cayaban	Feb 1-4, 2011	ECI Training Center, Unit E, 9F, Strata 100 Bldg., Emerald Ave., Ortigas Center, Pasig City
Training for Radar Station Maintenance and Assessment of PAGASA equipment	Romeo Paras Jr. Marco del Rosario	Jan 19-25, 2011	Baguio City
Advanced Optic Fiber and Wireless Network Technology Seminar	Mark Henry Quilala	Apr 6-8, 2011	Veterans Center Bldg., Camp Gen. Emilio Aguinaldo, Quezon City
5th HNICEM 2011 International Conference	Nypho Pareño Jay Randolf Ratunil	Mar 10-13, 2011	Traders Hotel Manila, Philippines
Seminar on Electromagnetic Compatibility	Romeo Paras Jr.	Mar 21-24, 2011	BPS Testing Center, MIRDC Compound, Bicutan, Taguig City
3rd Annual National Convention of the Electronic Financial User's Circle	Gay Concepcion Bugagao Karen Felix Jayson Hernandez	Apr 13-16, 2011	Bacolod Pavillion Resort Hotel, Reclamation Area, Bacolod City
Philippine Government Electronic Procurement System Training	Atty. Carmencita Echano Danilo Hapin Anna Liza Oleriana Lina Libo-on May Cayaban Rene Mendoza Rage Callao	Mar 31-Apr 4, 2011 Apr 28-29, 2011	Eologio " Amang " Rodriguez Institute of Science and Technology, 4th floor ICT – Library Building, Nagtahan, Sampaloc, Manila
Effective Internal Quality Audit Report Writing Seminar	Jelina Tanya Tetangco Allisone Delos Santos	Mar 30, 2011	Philippine Trade Training Center Building, Sen. Gil J. Puyat Ave. cor Roxas Blvd. Pasay, City
Kaizen Management Seminar	Jelina Tanya Tetangco May Cayaban Reila Anasol Irinco	May 9-10, 2011	Teodoro Room, 3rd Floor, UPISSI Bldg., E. Vitara Hall, E. Jacinto St., UP Campus Diliman, Quezon City
Appraisal and Disposal of Government Property Seminar	Joseph Callao, Jr. George Mesina	May 25-27, 2011	PDC Training Room, Case Room No, 2, Professional Dev't Office, Commonwealth Avenue, Quezon City
Technical Working Group Workshop on Exposure Database Development in the Greater Metro Manila Area	Rage Callao	July 4-8, 2011	PHIVOLCS Auditorium, C. P. Garcia Ave., U.P. Diliman, Quezon City

Title	Participants	Date	Venue
Information Systems Strategic Planning Seminar	Mini May Markie Medel Emily Pagador	July 13-15, 2011	NCC Seminar Room, 2nd Floor National Computer Center Bldg., C.P. Garcia Ave., Diliman, Quezon City
Training on Laws and Rules on Government Expenditures	Jayson Hernandez	July 19-22, 2011	Professional Development Office, Commission on Audit, Commonwealth Ave., Quezon City
Institute of Electronics Engineers of the Philippines, Inc. (IECEP) Mid-year Conference	Romeo Paras Jr. Mark Henry Quilala	July 21-23, 2011	Fontana Leisure Parks Convention Center, Clark Freeport Zone, Pampanga
Bureau of Product Standards' Technical Committee on Electromagnetic Compatibility Workshop	Romeo Paras Jr.	July 13-15, 2011	Subic International Hotel, Olongapo City
Gender and Development (GAD) Symposium	Jelina Tanya Tetangco	July 25, 2011	NCAS Auditorium, UPLB, Los Banos, Laguna
Internal Control Structure Seminar	Allisone Delos Santos Jayson Hernandez	Sep 13-16, 2011	Professional Development Center, Commission on Audit, Commonwealth Ave., Quezon City
ICT Vendor Management Training	Joanna Syjuco Bayani Benjamin Lara	Sep 19-20, 2011	University of the Philippines Institute of Small Scale Industries
Competency-based Training on HRM in the Public Sector	Atty. Carmencita Echano Mylene Monton	Oct 25-27, 2011	Civil Service Institute, 4th Floor, CSC Building, Constitution Hills, Diliman, Quezon City
Monitoring and Evaluating Programs and Projects (MEPP) Course	Joanna Syjuco Jeffrey Aborot Rusnell Espinoza Reila Anasol Irinco Glenn de Paula	Oct 10-14, 2011	University of the Philippines Institute of Small Scale Industries
Seminar on Management of Electronic Records	Emma Juco	Oct 18-19, 2011	Hotel Pan Pacific Manila, M. Adriatico corner Gen. Malvar Streets, Malate, Manila
Energy Summit 2011	Gerwin Guba Glenn Vincent Lopez George Mesina Francis Ismael Jr.	Oct 19, 2011	New World Hotel, Makati City
Public Key Infrastructure Application Seminar	Rene Mendoza Rage Callao	Nov 3, 2011	City Garden Hotel, 7870 Makati Ave. cor. Kalayaan Ave., Makati City
Seminar on Recent Advances in Vitamin D in Health and Nutrition	Atty. Carmencita Echano Gay Concepcion Bugagao Karen Felix Milites Pedro Marilou Rubillos Aurora Leonido	Nov 4, 2011	Shangri-la Hotel, Mandaluyong City
Training of Trainers Programme on "Planning and Implementing Technology Transfer Projects"	Pedrito Mangahas	Nov. 7-9, 2011	Heritage Hotel, Manila
Leadership Workshop at the Development Academy of the Philippines	Jelina Tanya Tetangco Mini May Markie Medel Juvilyn Castañeda Mylene Monton Maria Cristina Manuel	Nov 9-10, 2011	Tagaytay City, Batangas
Seminar on Rules and Regulation on the Settlement of Accounts and Revised Rules of Procedure of the Commission on Audit	Allisone Delos Santos	Nov 18, 2011	Professional Development Center, Commission on Audit, Commonwealth Ave. Quezon City
Project Management Training	May Cayaban	Nov 16-18, 2011	NEC Building, Juinio Hall, UP Diliman, Quezon City
"Building a Community of Practice: Improving Access to Climate Information Relevant to Adaptation" Conference - Workshop	Bayani Benjamin Lara Rene Mendoza	Nov 14-16, 2011	Century Park Hotel, Manila
Workshop on Cybersecurity for Government	Rene Mendoza Rage Callao	Dec 14-15, 2011	National Defense College of the Philippines, Camp Aguinaldo, Quezon City

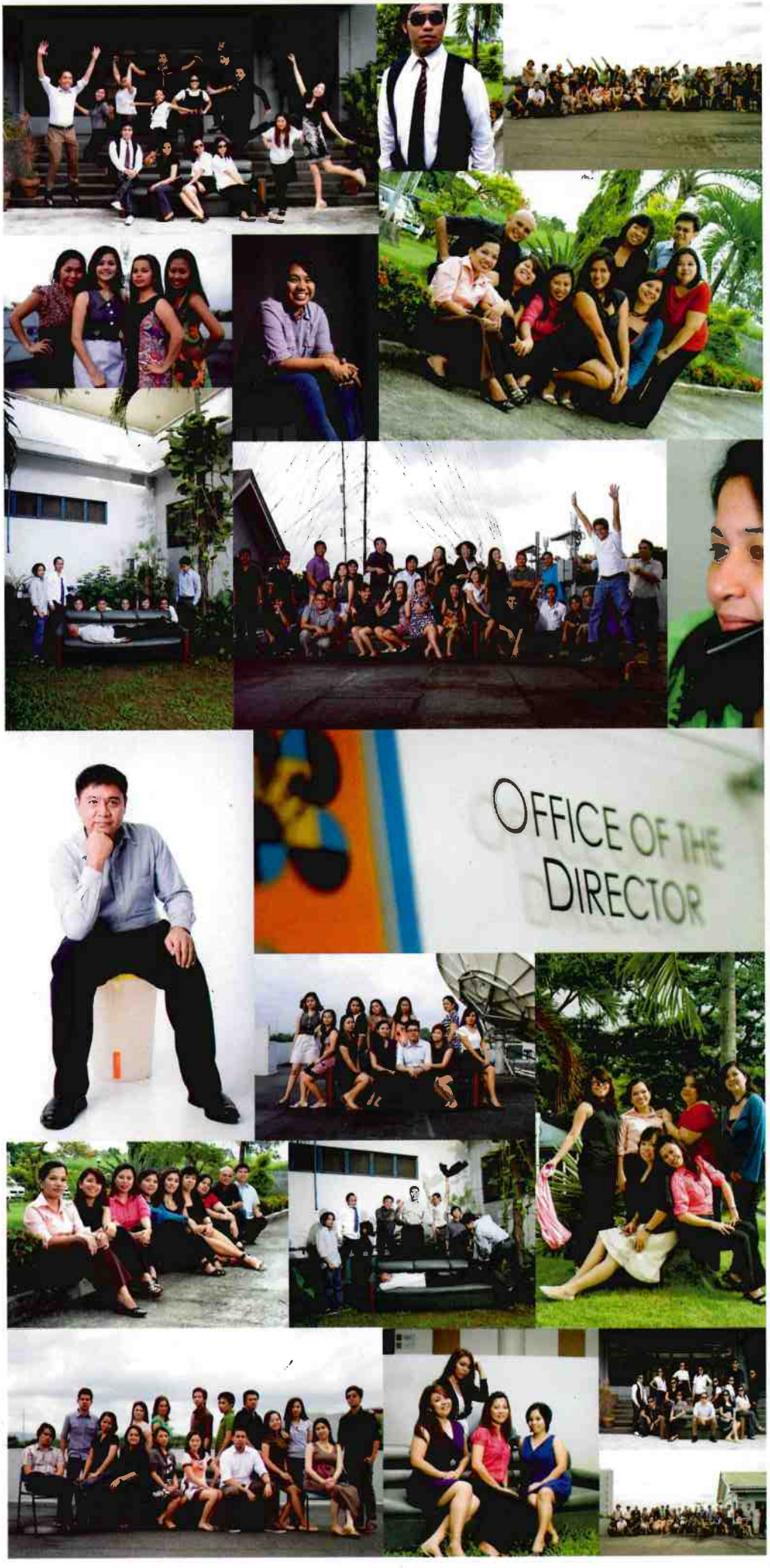
2011 ASTI OFFICIALS

(From left to right)
Denis F. Villorente *(Director)*
Rene C. Mendoza *(Chief, Knowledge Management Division)*
Atty. Carmencita M. Echano *(Chief, Finance and Administrative Division)*
Peter Antonio B. Banzon *(Chief, Research and Development Division)*
Joanna G. Syjuco *(Chief, Computer Software Division)*
Bayani Benjamin R. Lara *(OIC, Solutions and Services Engineering Division)*

ORGANIZATIONAL **STRUCTURE**

The organizational structure of ASTI is composed of the Office of the Director (OD), Finance and Administrative Division (FAD), and four (4) technical divisions namely: Research and Development Division (RDD), Solutions and Services Engineering Division (SSED), Computer Software Division (CSD), and Knowledge Management Division (KMD).

The men and women of the DOST-Advanced Science and Technology Institute



Office of the Director

The Office of the Director)OD_ oversees the overall welfare of the Agency as it sets the DOST-ASTI's strategic direction, formulates internal policies and ensures implementation to attain goals and objectives. This group is also responsible for the planning and monitoring of research programs/projects and other activities of the Agency, setting of performance indicators and evaluation of Agency performance based on the formulated indicators. Since the human resource development is under the OD, this Division oversees the development of the competencies and expansion of the capabilities of the agency.

Other activities entrusted to the Office of the Director include establishment and sustaining partnerships and linkages with DOST and external organizations on R&D and technology transfer activities, as well as, scouting for possible funding sources for the agency's different programs.

Finance & Administrative Division

The Finance and Administrative Division (FAD) provides support and the necessary services for the welfare of the Agency and its staff. It advises and assists the Director on budgetary, financial and management matters. It also provides the Institute with economical, efficient and effective services relating to personnel, supplies, equipment, collections, disbursement, security and custodial work.

Computer Software Division

The Computer Software Division (CSD) aims to provide innovative and reliable software systems and applications. It forges and strengthens partnerships with the academe, government, and industry by providing effective software solutions, software design and development consultancies, and contract researches.

Solutions & Services Engineering Division

The Solutions and Services Engineering Division (SSED) is the Agency's center for contracted engineering and design work. It handles, supports and markets various solutions and services. The Division is composed of the Embedded Systems Group (ESG), the PREGINET, the K-Agrinet and the Business Development Unit (BDU).

The ESG is responsible for developing holistic embedded solutions for clients that incorporate microcontroller-

based design, communication, graphical user interface and applications.

The PREGINET operates and maintains the country's only nationwide research and education network and provides network services such as VoIP, IPv6, videoconferencing and other similar services.

The recently established BDU is envisioned to drive commercialization efforts through effective market research and communication. To complement these efforts and gain momentum to drive its activities, the SSED actively seeks collaborations to effectively serve more clients from the academe, government, and industry.

Research and Development Division

The Research and Development Division (RDD) conducts strategic R&D in ICT and Electronics, taking direction from the national S&T Plan, as well as, ICT and Electronics industry development roadmaps. The Division is divided into three (3) sections, namely: Network Research, Computing Research, and Microelectronics Research. The Network Research Section implements R&D projects in the fields of advanced networking and wireless technologies that are necessary for the design and implementation of innovative advanced networking products/services and wireless communications systems.

The Computing Research Section focuses on projects involving various computing technologies such as Open Source and Grid Computing which are significant in the development of software and firmware products.

The Microelectronics Research Section prioritizes research activities that will establish the design foundation and know-how vital for the country's entry into the local and global market for integrated circuits and embedded products and solutions.

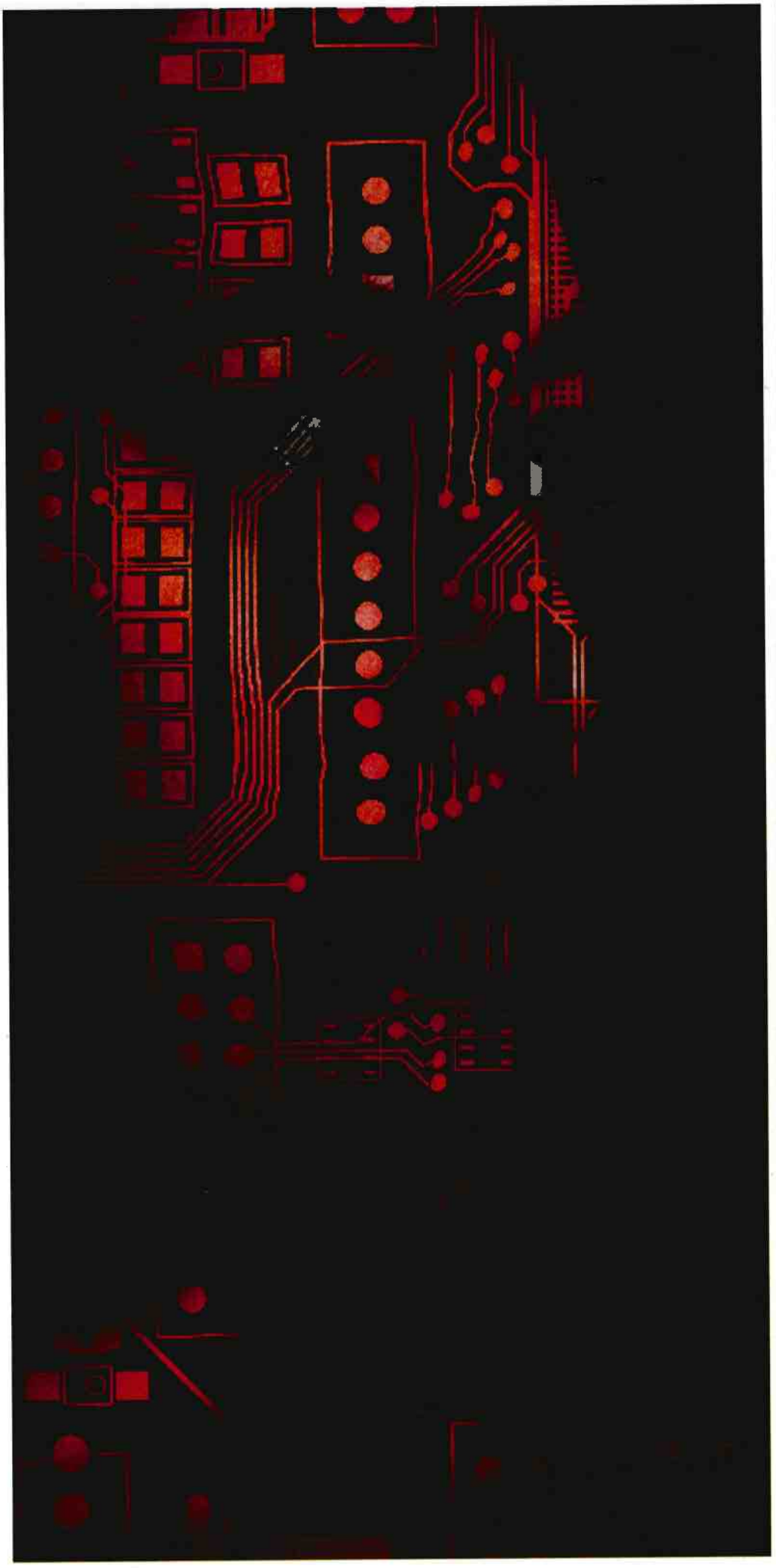
Knowledge Management Division

The Knowledge Management Division (KMD) is created for the purpose of increasing and better leveraging ASTI's available intellectual capital and enable the Institute to continuously improve its performance through reuse of knowledge.

The team is expected to carry out the following functions: a) Source, mine, synthesize, and package knowledge for internal and external use; b) Leverage knowledge to improve organizational performance of the agency; c) Proactively share knowledge for development impact; and d) Leverage KM as an integrating component for selected technology solutions.

ANNEX

Cover of the ASTI 2010 Annual Report



MFO Data

Table 1. Technology Transfer Beneficiaries (Commercialized)

BENEFICIARY		Technology/ies Transferred		Period of Engagement		Responsible Agency Staff
Name of Enterprise	Address	Name of Technology	Description	Start	End	Name
DOST-CO (PES-ITD)	DOST Compound, Bicutan, Taguig City	ASTI-Developed Equipment Inventory System	customization of ASTI-Developed Equipment Inventory System	Q1	Q4	Emily R. Pagador
DOST-PNRI	Commonweatlth Ave., Quezon City	ASTI Infosys	customization of the ASTI Infosys	Q1	Q4	Emily R. Pagador
DOST-CAR	La Trinidad, Benguet	GSM Data Terminal	fabrication of one (1) unit of GSM Data Terminal	Q4	Q1	Maria Cristina Manuel
Professionals/students		Digital Multimeter (FP705)	direct sale of units by Alexan Commercial	Q1	Q4	Gerwin Guba (ASTI)/Dr. Marina Alipon (FPRDI)/ Mr. Alex Sy (Alexan Commercial)
DOST VI	Magsaysay Village, La Paz, Iloilo City	ARG	fabrication of five (5) units of ARG	Q2	Q3	Maria Cristina Manuel
NSC	V. Luna Road cor. East Ave., Nica Compound, Diliman, Quezon City	ASTI Infosys	customization of the ASTI Infosys	Q2	ongoing	Emily R. Pagador
DOST-TRC	Jacinta II Bldg., Guadalupe, Nuevo, EDSA, Makati	ASTI Infosys	customization of the ASTI Infosys	Q3	ongoing	Emily R. Pagador
LGU Molave	Zamboanga del Sur	ARG	fabrication of three (3) units of ARG	Q3	Q4	Maria Cristina Manuel
UP MSI	UP Diliman, Quezon City	G-DAT	fabrication of three (3) units of Dataloggers (G-DAT)	Q4	Q4	Maria Cristina Manuel

Table 2. Technology Transfer Beneficiaries (Diffusion)

BENEFICIARY		Technology/ies Diffused		Period of Engagement		Responsible Agency Staff
Name of Enterprise	Address	Name of Technology	Description	Start	End	Name
DOST RDIs/ROs		R&D Infosys	System demonstration	Q1	Q1	Marco del Rosario
Students/Faculty of La Salle State University	Taft Ave., Manila	ASTI's ICT for the Environment Program and IPv6	Presentation on ASTI's ICT for the Environment Program and IPv6 during the "2nd ICT Youth Convention" of La Salle Univ., Ozamiz City	Q1	Q1	May Cayaban
IRRI	Los Baños, Laguna	FMON System	Product presentation	Q1	Q1	Rod James Bio
Romblon State University (BS IT students)	Odiongan, Romblon	Bayanihan, Preginet, Embedded systems, Courseware	Product presentation/ technology talk	Q1	Q1	Pinky Manio
University of Bohol (BS ECE/ComEng students)	Tagbilaran City, Bohol	Bayanihan, Preginet, Embedded systems, Courseware	Product presentation/ technology talk	Q1	Q1	Pinky Manio
UP Los Baños (BS DevCom students)	Los Baños, Laguna	Knowledge Management	Product talk	Q1	Q1	Pinky Manio
ADMU Manila Observatory	Katipunan Ave., Loyola Heights, Quezon City	Grid Computing Using Reconfigurable Hardware Technology	Product/technology talk	Q1	Q1	Jelina Tetangco

BENEFICIARY		Technology/ies Diffused		Period of Engagement		Responsible Agency Staff
Name of Enterprise	**Address**	**Name of Technology**	**Description**	**Start**	**End**	**Name**
UP (PhilippineGenome Center)	UP Diliman, Quezon City	Grid Computing Using Reconfigurable Hardware Technology	Product/technology talk	Q1	Q1	Jelina Tetangco
DOST-TRC	Jacinta II Bldg., Guadalupe Nuevo, EDSA, Makati City	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
OSG	134 Amorsolo St., Legaspi Village, Makati City	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
NSC	V. Luna Road corner East Ave. Nica Compound Diliman, Quezon City	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
Professional Regulation Commission	P. Paredes, cor. Morayta St., Sampaloc, Manila	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
Bases Conversion and Development Authority	2nd Floor, Bonifacio Technology Center, 31st St., corner 2nd Avenue, Bonifacio Global City, Taguig City, Metro Manila	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
PSHS-Central Luzon	Clark Polytechnic Compound, Jose Abad Santos Avenue, Clark Freeport, Angeles City, Pampanga	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
Civil Service Commission	Constitution Hills, Batasan Pambansa Complex, Diliman, Quezon City, Metro Manila	ASTI Infosys	Product presentation/ demonstration	Q1	Q1	Emily Pagador
UP Cebu	Gorordo Avenue, Brgy. Camputhaw, Lahug District, Cebu City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
UP Los Baños	Los Baños, Laguna	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
NAMRIA	Lawton Avenue, Fort Andres Bonifacio, Taguig City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
VMMC	North Avenue, Quezon City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
Technological Institute of the Philippines	938 Aurora Boulevard, Cubao, Quezon City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
Nutrition Center of the Philippines	2332 Chino Roces Ave. Ext., Taguig City, Metro Manila	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
Senate of the Philippines	GSIS Building, Financial Center Roxas Blvd., Pasay City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
University of Santo Tomas	España, Sampaloc, Manila	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
De La Salle University	Taft Ave., Manila	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
NSC	V. Luna Road corner East Avenue, Nica Compound Diliman, Quezon City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
DAR	Elliptical Road, Diliman, Quezon City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
National Housing Authority	Elliptical Road, Diliman, Quezon City	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
UPLB Center for Tech Transfer & Entrepreneurship (CCTE)	Biotech Road, Los Baños, Laguna	PREGINET	Product/technology talk	Q1	Q1	May Cayaban
Various locations nationwide (list available upon request)		AWS, PREDICT	Deployment/installation of Hybrid AWS, and maintenance of PREDICT units	Q1	Q4	May Cayaban

BENEFICIARY		Technology/ies Diffused		Period of Engagement		Responsible Agency Staff
Name of Enterprise	Address	Name of Technology	Description	Start	End	Name
Various locations nationwide (list available upon request)		WLMS	deployment/installation of WLMS units to various locations nationwide	Q1	Q4	May Cayaban
Various locations nationwide (list available upon request)		ARG	deployment of ARG units	Q1	Q4	May Cayaban
Various professionals/ individuals		Bayanihan	Downloading of Bayanihan versions	Q1	Q4	Rage Callao
Various professionals/ individuals		Courseware	Downloading of courseware modules	Q1	Q4	Arlene Punzalan
UPLB-BIOTECH	UP Los Baños, College, Laguna	ASTI Grid Computing Facility	Provision of technical support for current users of Grid-based applications for Life Science & Physical Science Researches	Q2	Q2	Jelina Tetangco
UP MSI	UP Diliman, Quezon City	ASTI Grid Computing Facility	Provision of technical support for current users of Grid-based applications for Life Science & Physical Science Researches	Q2	Q2	Jelina Tetangco
UP National Institute of Physics	UP Diliman, Quezon City	ASTI Grid Computing Facility	Provision of technical support for current users of Grid-based applications for Life Science & Physical Science Researches	Q2	Q2	Jelina Tetangco
DOST-PAGASA	Science Garden Complex Agham Road, Diliman, Quezon City	ASTI Grid Computing Facility	Provision of technical support for current users of Grid-based applications for Life Science & Physical Science Researches	Q2	Q2	Jelina Tetangco
UP National Institute of Geological Sciences	C.P. Garcia corner Velasquez Street. University of the Philippines, Diliman. Quezon City	ASTI Grid Computing Facility	Provision of technical support for current users of Grid-based applications for Life Science & Physical Science Researches	Q2	Q2	Jelina Tetangco
DOST-TRC	Jacinta II Bldg., Guadalupe Nuevo, EDSA, Makati City	Open Standards Adoption/ Open Source Migration	Presentation/workshops	Q2	Q2	Emman Balintec
OSG	134 Amorsolo St., Legaspi Village, Makati City	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
Bank of Florida, Pampanga	San Fernando City, Pampanga	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
Commission on Higher Education	Higher Education Development Center Building, C.P. Garcia Avenue, UP Diliman Campus, Quezon City	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
Bases Conversion and Devt Authority	2nd Floor, Bonifacio Technology Center, 31st St., corner 2nd Avenue, Bonifacio Global City, Taguig, Metro Manila	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
Court of Appeals	Ma. Orosa St., Ermita, Manila	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
DOST-PCIEERD	DOST Compound, Bicutan, Taguig City, Metro Manila	ASTI Infosys	Product/Technology presentation	Q2	Q2	Emily Pagador
VMMC	North Ave., Quezon City, Metro Manila	DVTS	Product/Technology demonstration	Q3	Q3	May Cayaban
Various individuals/ professionals/students		AWS, ARG, WLMSCourseware, Bayanihan, Digital Wood Moisture Meter (DWMM), PC Tablet	Product/Technology talk and exhibit participation during the Expo Science 2011 at the SMX, Pasay City	Q3	Q3	Pedrito Mangahas
Various professionals and students from government, academic, industry sectors/NGOs		AWS, ARG, WLMS, Metbouy	Product/Technology presentation	Q3	Q3	Maria Cristina Manuel

BENEFICIARY		Technology/ies Diffused		Period of Engagement		Responsible Agency Staff
Name of Enterprise	Address	Name of Technology	Description	Start	End	Name
PSHS Main Campus	Agham Road, Diliman, Quezon City, Metro Manila	Embedded Technologies/ AWS, PREGINET, Courseware	Presentation of products/ technologies at the PSHS	Q3	Q3	May Cayaban/ Arlene Punzalan
Various individuals/ professionals/students		ASTI Embedded Products/ Technologies	Product/Technology demonstration and exhibit at the Nido Discovery Center at the SMX Convention Center, Pasay City in coordination with PAGASA	Q3	Q3	Maria Cristina Manuel
Jasaan Elementary School Kimaya Elementary School	Misamis Oriental	Grade 1 Math Courseware	Pre-Pilot Testing of Grade 1 Math Courseware modules	Q4	Q4	Arlene Punzalan
A.T. Aguja Central School Cassidy Elementary School	Leyte	Grade 1 Math Courseware	Pre-Pilot Testing of Grade 1 Math Courseware modules	Q4	Q4	Arlene Punzalan
Local Government Unit Molave	Molave, Zamboanga del Sur	ARG	Product demonstration on the operations of the Automated Rain Gauge	Q4	Q4	Maria Cristina Manuel
Department of Foreign Affairs	2330 Roxas Boulevard, Pasay City	ASTI Infosys	Product/Technology demonstration	Q4	Q4	Emily Pagador
National Power Corporation	BIR Road corner Quezon Avenue, Diliman, Quezon City	ASTI Infosys	Product/Technology demonstration	Q4	Q4	Emily Pagador
Various individuals/ professionals/students		ASTI Trainings, IPv6, Bayanihan, Embedded Technologies, Bayanihan, Grid	Provision of information materials for ASTI products/ technologies during the IECEP 2011and Expo Phils. 2011 at the SMX Convention Center, Pasay City	Q4	Q4	Pedrito Mangahas

Table 3. Consultancy Beneficiaries

BENEFICIARY		Title of Consultancy Services Rendered	Period of Engagement		Field Staff
Name of Enterprise/ Organization	Address		Start	End	Name
Various government institutions (local and national)		Inquiries on login info	Q1	Q1	Roxanne Aviñante
DOST VI	Magsaysay Village, La Paz, Iloilo City	Product inquiry for GSM Data Terminal	Q1	Q1	Maria Cristina Manuel
DOST IX	Pettit Barracks, Zamboanga City	Product inquiry for GSM Data Terminal	Q1	Q1	Maria Cristina Manuel
DOH	San Lazaro Compound, Tayuman, Sta. Cruz, Manila	Product inquiry for GSM Data Terminal	Q1	Q1	Maria Cristina Manuel
Johnson & Johnson	Edison Rd., Bo. Ibayo, Parañaque City	Product inquiry for GSM Data Terminal	Q1	Q1	Maria Cristina Manuel
Various individuals from private, government, and academic institutions		Product inquiry for GSM Data Terminal	Q1	Q1	Maria Cristina Manuel
St. John Technological College	29 Jewel St., Forest Hills, Gulod, Novaliches Quezon City, Metro Manila	Interview: ASTI about Bayanihan	Q1	Q1	Rage Callao
Various individuals/ professionals/students		Product inquiries on Bayanihan through discussion forum site/e-mail/walk-in re: upgrades, installation, multimedia, networking/wireless, security, development, technical support, and sales	Q1	Q4	Rage Callao
Department of Energy	Merritt Road, Fort Bonifacio, Makati City	Inquiry on ASTI Infosys	Q2	Q2	Emily R. Pagador
ABC 5	762 Quirino Highway, San Bartolome, Novaliches, Quezon City	Interview: ASTI PC Tablet	Q2	Q2	Peter Antonio Banzon

BENEFICIARY		Title of Consultancy Services Rendered	Period of Engagement		Field Staff
Name of Enterprise/ Organization	Address		Start	End	Name
GMA Channel 7	EDSA corner Timog Street, Diliman, Quezon City	Interview: Internet access/internet exchange/PhOpenIX	Q2	Q2	Bayani Benjamin Lara
Energy Development Corporation	38/F One Corporate Centre, Julia Vargas corner Meralco Avenue, Ortigas Center Pasig City	Consultancy: ASTI Grid Computing facility	Q2	Q4	Jelina Tetangco
Participants to the IECEP 61st Midyear Conference and General Membership Meeting	Institute of Electronics Engineers of the Philippines – Pampanga chapter, Maimpis, City of San Fernando, Pampanga	Resource person for IPv6 during the IECEP 61st Midyear Conference and General Membership Meeting; Venue: Fontana Leisure Parks Convention Center, Clark Freeport Zone, Pampanga	Q3	Q3	Bayani Benjamin Lara
Phil. Association of Private Telecommuncations Companies, Inc.		Resource person for the orientation seminar on the migration from IPv4 to IPv6; Jul 19, 2011; venue: Casino Español, Cebu City	Q3	Q3	Bayani Benjamin Lara

Table 4. S&T Service Beneficiaries

BENEFICIARY		Technical Services Rendered	Period of Engagement		Field Staff
Name of Enterprise/ Organization	Address		Start	End	
International Rice Research Institute (IRRI)	UP Los Banos Campus, Laguna	ASTI HPC (High Performance Computing)/Grid Computing Facility	Q2	Q2	Jelina Tetangco
DOST-FPRDI	Los Baños, Laguna	Provide assistance in testing the link of FPRDI's PREGINET connection via UPLB network	Q1	Q1	PREGINET TEAM c/o May Cayaban
PREGINET		Provision of webhosting and server collocation	Q1	Q1	PREGINET TEAM c/o May Cayaban
Senate of the Philippines	GSIS Building, Financial Center Roxas Blvd., Pasay City	Videostreaming re: 2011 IPv6 Conference & Training	Q1	Q1	PREGINET TEAM c/o May Cayaban
UP	UP Diliman, Quezon City	Webhosting	Q1	Q1	PREGINET TEAM c/o May Cayaban
Philippine Charity Sweepstakes Office (PCSO)	PICC Secretariat Bldg., CCP Complex 1307 Roxas Blvd., Pasay City	Webhosting	Q1	Q1	PREGINET TEAM c/o May Cayaban
PRC	P. Paredes., Cor. Morayta St., Sampaloc, Manila	Webhosting	Q1	Q1	PREGINET TEAM c/o May Cayaban
Metro Roxas Water District	MRWD Bldg. Kilometer 1, Roxas City 5800 Capiz	Webhosting	Q1	Q1	PREGINET TEAM c/o May Cayaban
DOST-PCIEERD	DOST Compound, Bicutan, Taguig City, Metro Manila.	Webhosting	Q1	Q1	PREGINET TEAM c/o May Cayaban
DNS-registered government institutions	Nationwide	DNS services: registration, approval, modification, deletion; Maintenance of Domains (backup, etc.); Inquiries on login information	Q1	Q4	Roxanne Aviñante
PREGINET/K-AGRINET partner-institutions	Nationwide	Continuous maintenance of network infrastructures of PREGINET/K-AGRINET partner-institutions	Q1	Q4	PREGINET Team c/o May Cayaban
DOST-PNRI	Commonwealth Avenue, Quezon City	Videoconferencing services between PNRI and ORNL	Q2	Q2	PREGINET Team c/o May Cayaban
Oak Ridge National Laboratory (ORNL)	Commonwealth Avenue, Quezon City	Videoconferencing services	Q2	Q2	PREGINET Team c/o May Cayaban
MDH	United Nations Avenue Manila	Videoconferencing using DVTS software	Q3	Q3	PREGINET Team c/o May Cayaban
UPLB	Los Baños, Laguna	Videostreaming service	Q3	Q3	PREGINET Team c/o May Cayaban
MDH, Radiology Department	United Nations Avenue Manila	Provision of Telemedicine facilities using DVTS software	Q3	Q3	PREGINET Team c/o May Cayaban

BENEFICIARY		Technical Services Rendered	Period of Engagement		Field Staff
Name of Enterprise/ Organization	Address		Start	End	
Participants to the Technology Session of the 32nd APAN Meeting		Videoconferencing/videostreaming services for the Technology Session of the 32nd APAN Meeting; Aug 25, 2011	Q3	Q3	PREGINET Team c/o May Cayaban
COA	Commonwealth Avenue, Quezon City	Videoconferencing service	Q3	Q3	PREGINET Team c/o May Cayaban
APAN Medical Working Group meeting		Videoconferencing service using H.323appliance (Polycom)	Q3	Q3	PREGINET Team c/o May Cayaban
DOST	DOST Compound, Bicutan, Taguig City, Metro Manila	Setting up of internet connection for 2011 NSTW at the SMX Convention Center	Q3	Q3	PREGINET Team c/o May Cayaban
DOST	DOST Compound, Bicutan, Taguig City, Metro Manila	Videostreaming services for 2011 NSTW	Q3	Q3	PREGINET Team c/o May Cayaban
DOST-NAST	DOST Compound, Bicutan, Taguig City, Metro Manila	Videostreaming of NAST's 33rd Annual Scientific Meeting	Q3	Q3	PREGINET Team c/o May Cayaban
Public-Private Partnership Center of the Philippines (PPP)	NEDA, EDSA Diliman 1103 Quezon City	Webhosting	Q4	Q4	PREGINET Team c/o May Cayaban
UPV Miagao	Iloilo City	Connectivity	Q4	Q4	PREGINET Team c/o May Cayaban
Court of Appeals Manila	Ma. Orosa St., Ermita, Manila	Installation of secondary link	Q4	Q4	PREGINET Team c/o May Cayaban
Court of Appeals Cebu	Midway Bldg., Salvador Ext, Happyvalle Subdivision, Banawa 6000 Cebu City	Installation of 1Mbps link	Q4	Q4	PREGINET Team c/o May Cayaban
VMMC	North Avenue, Quezon City	Provided DVTS, videostreaming, and videoconferencing services for VMMC Telehealth Session "Phacoemulsification Conference 2011"	Q4	Q4	PREGINET Team c/o May Cayaban
UPLB	Los Baños, Laguna	Use of videostreaming facilities for UPLB 93rd Loyalty Day	Q4	Q4	PREGINET Team c/o May Cayaban
DOS-IV A	Brgy. Timugan, Los Banos. Laguna 4030	Provide technical assistance to DOST CALABARZON during the Webinar on Food Safety	Q4	Q4	PREGINET Team c/o May Cayaban
CONNECT-Asia	Indonesia	Videocon for CONNECT- Asia	Q4	Q4	PREGINET Team c/o May Cayaban
UP Diliman Interactive Learning Center	UP Diliman, Quezon City	Videocon for CONNECT- Asia	Q4	Q4	PREGINET Team c/o May Cayaban
ADMU	Katipunan Avenue, Loyola Heights, Quezon City	Videocon for CONNECT- Asia	Q4	Q4	PREGINET Team c/o May Cayaban

Table 5. R&D Projects Implemented

Title of R&D Project	Socio-Economic Objective	Project Duration		Project Leader		2011 Expenditures (Disbursments + A/P)	Funding Source	Status	Project Budget (in PhP)
		Start	End	Name	Email				
Development of a Low-Cost and Locally-Designed Meteorological Buoy (METBOUY)	Access to information	Jul 2011	Jun 2013	Gerwin P. Guba	gerwin@asti.dost.gov.ph	803,979.57	DOST-GIA (total budget distributed to ASTI, MIRDC. PCIEERD) (Y1)	New	7,260,000.00
Development of a Field Monitoring System	Access to information	Jan 2009	Dec 2012	Denis F. Villorente	denis@asti.dost.gov.ph	6,966,754.32	DOST-GIA (Y1-Y2)	Ongoing	11,579,582.19
Development of Hybrid Weather Monitoring System and Production of Weather and Rain Automated Stations	Access to information	Sept 2010	Aug 2012	Gerwin P. Guba	gerwin@asti.dost.gov.ph	42,166,190.03	DOST-GIA (Y1-Y2)	Ongoing	71,580,381.00

Title of R&D Project	Socio-Economic Objective	Project Duration		Project Leader		2011 Expenditures (Disbursments + A/P)	Funding Source	Status	Project Budget (in PhP)
		Start	End	Name	Email				
Emergency Distribution of Hydro-Meteorological Devices in Hard-Hit Areas in the Philippines (HYDROMET)	Access to information	Jan 2012	Dec 2012	Denis F. Villorente	denis@asti.dost.gov.ph	-	PCIEERD	New	150,000,000.00
Establishment of a Cost-effective Local Tsunami Warning System for Selected High-Risk Coastal Communities of the Philippines	Access to information	Jul 2011	Jun 2012	Gerwin P. Guba	gerwin@asti.dost.gov.ph	252,116.30	DOST-GIA (budget distributed to PHIVOLCS/ ASTI) (Y1)	New	7,693,612.00
Infrastructure and Connectivity Component – eDOST-INFRA: Upgrading of DOST ICT Infrastructure and Interconnectivity Network	Access to information	Jan 2008	Dec 2012	Bayani Benjamin R. Lara	bani@asti.dost.gov.ph	6,516,134.31	DOST-GIA (Y1-Y3)	Ongoing	61,112,765.70
WINDS	Access to information	Oct 2008	continuous	Denis F. Villorente	denis@asti.dost.gov.ph	-	ASTI	Ongoing (operations only)	0.00
Philippine Geoportal: One Nation One Map Project	Access to information	Jul 2011	July 2012	Rene C. Mendoza	rene@asti.dost.gov.ph	2,289,599.91	NAMRIA (2 Years)	New	34,048,000.00
Boosting Grid Computing Using Reconfigurable Hardware Technology	Access to information	Jan 2008	Dec 2011	May Grace C. Dy Jongco	gracedj@asti.dost.gov.ph	2,264,212.85	DOST-GIA (Y1-Y3)	Completed	34,908,932.49
Research Study on Low-Cost Computing Solutions for Primary Education – (PC Tablet I)	Access to information	Dec 2010	July 2011	Peter Antonio B. Banzon	peter@asti.dost.gov.ph	477,235.24	DOST-GIA	Completed	500,000.00
Capacity-Building in Support for the Pilot Testing of the DOST Tablet Computers (PC Tablet 2)	Access to information	Jul 2011	Jun 2012	Peter Antonio B. Banzon	peter@asti.dost.gov.ph	1,681,409.54	DOST-GIA	New	14,793,000.00
e-DOST- Open Standards: Program and Change Management and Implementation of Open Standards to DOST	Access to information	Jan 2008	June 2011	Emman Balintec	emman@asti.dost.gov.ph	1,773,183.13	DOST-GIA (Y1-Y3)	Completed	14,302,996.06
Establishment of DOST-PEZA Open TBI	Access to information	Feb 2009	July 2011	Peter Antonio B. Banzon	peter@asti.dost.gov.ph	2,113,385.16	DOST-GIA (Y1-Y2)	Completed	8,682,530.28
Integrative Bioinformatics: Data Warehousing for Microbial Information	Access to information	Feb 2010	July 2011	ASTI Project Manager: Jelina Tetangco; Project Leader from UPLB-BIOTECH	jeng@asti.dost.gov.ph	-	DOST-GIA	Completed	1,385,401.00
Quantified Flood Forecasting Through Rain Rate Estimation Using Satellite Imagery & Generalized Watershed Runoff Calculations	Access to information	Nov 2010	Nov 2011	ASTI Project Manager: Jelina Tetangco; Proj. Leader: Dr. Carlos Primo C. David (UP NIGS)	jeng@asti.dost.gov.ph	-	PCIEERD-GIA (budget distributed to UP NIGS, PAGASA, ASTI)	Completed	998,000.00
Development of Grade 1 Mathematics Courseware for Tablet PC	Access to information	Jun 2011	Jul 2011	Joanna G. Syjuco	joan@asti.dost.gov.ph	-	DOST-SEI	Completed	1,137,550.00

Title of R&D Project	Socio-Economic Objective	Project Duration		Project Leader		2011 Expenditures (Disbursments + A/P)	Funding Source	Status	Project Budget (in PhP)
		Start	End	Name	Email				
Development of Interactive Science and Mathematics Courseware for Secondary Level Schools	Access to information	Oct 2008		Joanna G. Syjuco	joan@asti.dost.gov.ph	7,022,231.35	DOST-GIA (Budget for Jan 2011 to Dec 2011)	Ongoing	11,368,452.00
Development of the Civil Service Commission Computerized Examination (CSC-COMEX)	Access to information	Jul 2011	Jun 2013	Joanna G. Syjuco	joan@asti.dost.gov.ph	1,090,320.25	CSC (Y1)	New	6,303,184.00
eDOST-INFOSYS: Upgrading and Development of DOST Information Systems	Access to information	Jan 2008	June 2011	Joanna G. Syjuco	joan@asti.dost.gov.ph	1,479,294.30	DOST-GIA (Y1-Y3)	Completed	29,836,672.83
Adoption of DOST-ASTI Information System for PNRI	Access to information		Dec 2011	Rene C. Mendoza	rene@asti.dost.gov.ph	-		Completed	0.00
Customization and Adoption of ASTI-Infosys for the Technology Resource Center	Access to information	Jul 2011	Feb 2012	Rene C. Mendoza	rene@asti.dost.gov.ph	-	TRC (budget for licensing fee and honoraria of staff)	New	0.00
Customization of ASTI Infosys for the National Security Council	Access to information	July 2011	Jun 2013	Rene C. Mendoza	rene@asti.dost.gov.ph	369,924.25	NSC (Y1-Y2)	New	1,882,977.00
Customization of ASTI-Developed Equipment Inventory System for DOST Central Office (PES-ITD)	Access to information	Dec 2010	Feb 2011	Rene C. Mendoza	rene@asti.dost.gov.ph	-	DOST (budget for licensing fee and honoraria of staff)	Completed	0.00
Development of Overseas Filipinos Information System (project with OPRT (Overseas Preparedness and Response Team) of the Office of the President)	Access to information	Jul 2011	Mar 2012	Rene C. Mendoza	rene@asti.dost.gov.ph	-	OP	New	1,422,236.00
Government Human Resource Information System	Access to information	Oct 2011	Sept 2012	Rene C. Mendoza	rene@asti.dost.gov.ph	-		New	0.00
SEACOOP - SEALING	Access to information	Jan 2010	Feb 2012	Denis F. Villorente	denis@asti.dost.gov.ph	232,496.18	European Commission	Ongoing	0.00
Nationwide Disaster Risk Exposure, Assessment and Mitigation (DREAM) Program: Project 1 - LIDAR and INSAR Data Acquisition (with UPD-TCAGP and PAGASA)	Access to information	Dec 2011	Dec 2013	Project Team Leader: Rene C. Mendoza (ASTI) Program Leader: Dr. Enrico C. Paringit (UPD-TCAGP)	rene@asti.dost.gov.ph	-	DOST-GIA (Y1-Y2)	New	841,486,296.00
Nationwide Disaster Risk Exposure, Assessment and Mitigation (DREAM) Program: Project 3 – Extracting Digital Elevation Models and Salient Features for Flood Modelling (with UPD-TCAGP and PAGASA)	Access to information	Dec 2011	Dec 2013	Project Team Leader: Rene C. Mendoza (ASTI) Program Leader: Dr. Enrico C. Paringit (UPD-TCAGP)	rene@asti.dost.gov.ph	-	DOST-GIA (Y1-Y2)	New	247,991,302.00

Table 6. Personnel Profile (Regular)

Category	Number	% Distribution
Total Number of Personnel (Headcount)	61	
By Job Function		
Administration and Management	22	36%
Technical	39	64%
By Sex		
Male	31	51%
Female	30	49%
By Age Group		
20 years old and below	0	0%
21-30	24	39%
31-40	23	38%
41-50	10	16%
51-60	4	7%
60 years old and over	0	0%
By Educational Attainment		
With PhD	0	0%
Master's Degree	9	15%
Bachelor's Degree	45	74%
Others	7	11%

Table 7. Intellectual Properties Filed / Granted

Title/Description of Intellectual Property	Application/ Registry No.	Type of IP	Name of Researcher/Inventor	Status	Date Filed/ Granted
Handbook of Practical Tips in FPGA-Based Design Using VHDL	A 2005-2507	Copyright (class A – books and other writings)	Jose Redentor A. Glifonea, Carmelo D. Cayaban, Rowena D. Saldaña	Granted	Dec 8, 2005
Self-Paced Learning Modules for Digital and Analog Integrated Circuit Design Courses (Unit 1-4, and Laboratory Manual)	A 2006-3242	Copyright (class A – books and other writings)	Mary Grace C. Dy Jongco, Jeffreyk S. Mendiola, Aaron S. Cabuling, Benson T. Siongco	Granted	Nov. 15, 2006
Bayanihan Thin Client Manager Software	N 2005-185	Copyright (class N – computer program)	Peter Antonio B. Banzon, Joanna S. Gonzales, Joseph F. Syjuco, Geraldine I. Lugod, Arjyl V. Betan, Ryan Joshua B. Asuncion, Rusnell A. Espinoza	Granted	Dec 8, 2005
User Manual: Bayanihan Thin Client Manager, Your Total Linux Thin Client Solution	A 2005-2508	Copyright (class A – books and other writings)	Peter Antonio B. Banzon, Joanna S. Gonzales, Joseph F. Syjuco, Geraldine I. Lugod, Arjyl V. Betan, Ryan Joshua B. Asuncion, Rusnell A. Espinoza	Granted	Dec 8, 2005
Bayanihan 4 Manual	A 2007-875	Copyright (class A – books and other writings)	Jaime Sebastian G. Sicam, Janice M. Ballesteros, Emmanuel P. Balintec, Katrina T. Murga, & Janice C. Carpo	Granted	Apr 25, 2007
User Guide Digital Wood Moisture Meter: FA507	0 2008-31	Copyright (class O – other literary, etc.)	Marina A. Alipon, Gil B. Dolotina, Gerwin P. Guba, Grecelda A. Eusebio, & Alvin E. Retamar	Granted (ASTI/FPRDI)	Oct 9, 2008
Digital Wood Moisture Meter	2-2009-000048	Utility Model	Marina A. Alipon, Gil B. Dolotina, Gerwin P. Guba, Grecelda A. Eusebio, & Alvin E. Retamar, Alexander E. Sy	Granted (ASTI/FPRDI)	Aug 17, 2009
FPRDI FA507 Wood Moisture Meter	4-2009-001908	Trademark	Marina A. Alipon, Gil B. Dolotina, Gerwin P. Guba, Grecelda A. Eusebio, & Alvin E. Retamar	Granted (ASTI/FPRDI)	Jul 9, 2009
Solar-Powered, GSM-Based Tsunami Audio-Visual Alarm System	2-2010-000442	Utility Model	Alvin E. Retamar, Gerwin P. Guba, Glenn Vincent C. Lopez, Harold Bryan S. Paler, Neil Xavier C. Elpa, Jeanette D. Badong	Filed	Sep 2, 2010

Title/Description of Intellectual Property	Application/ Registry No.	Type of IP	Name of Researcher/Inventor	Status	Date Filed/ Granted
Development of Computer-Aided Instructions for Science and Mathematics	F2011-02	Copyright (class F – musical composition)	Ricardo S. Galinato, Jr.	Registered under ASTI and SEI	Jan 19, 2011
Development of Computer-Aided Instructions for Science and Mathematics	N2011-04	Copyright (class N – computer program)	Jocel A. Atienza, Rusnell A. Espinoza, Ricardo S. Galinato Jr., Markel A. Madrigal, Harris Rainier V. Osania, Aireen S. Relucio, Francisco Educardo Y. Syantos, Joanna Gonzales-Syjuco and Joseph Syjuco	Registered under ASTI and SEI	Jan 19, 2011
Development of Computer-Aided Instructions for Science and Mathematics	G2011-05	Copyright (class G – drawing)	Jocel A. Atienza, Rusnell A. Espinoza, Ricardo S. Galinato Jr., Markel A. Madrigal, Harris Rainier V. Osania, Aireen S. Relucio, Francisco Educardo Y. Syantos, Joanna Gonzales-Syjuco and Joseph Syjuco	Registered under ASTI and SEI	Jan 19, 2011

Table 8. Scientific Papers Prepared / Published / Presented

Title of Scientific Paper	Author/s		Date Prepared/ Published/ Presented
	Name	E-Mail	
FPGA-Based Implementation of a Ray-Triangle Intersection algorithm for Ray Tracing in Image Rendering" venue: Traders Hotel Manila	Nypho P. Pareño, Jay Randolf S. Ratunil, Mary Grace C. Dy Jongco	nypho@asti.dost.gov.ph/ jay@asti.dost.gov.ph	March 10-13, 2011 during the 5th International Conference on HNICEM (Humanoid, Nanotechnology, Info Technology, Communication and Control, Environment, & Management) 2011 at the Traders Hotel Manila

Table 9. Technical Training Courses Conducted

Title of Training	Training Location			No. of Participants	Inclusive Dates Conducted	
	Venue	Municipality/ City	Province		Start	End
DOST R&D Infosys UAT/Training/Workshop	ASTI	Quezon City	Metro Manila	24	Mar 3, 2011	Mar 3, 2011
2nd DSOIS UAT/Training/Workshop	ASTI	Quezon City	Metro Manila	52	Mar 9, 2011	Mar 10, 2011
DSOIS End-User Training	ASTI	Quezon City	Metro Manila	66	Mar 14, 2011	Mar 16, 2011
2nd DFEIS UAT/Training/Workshop	ASTI	Quezon City	Metro Manila	48	Mar 23, 2011	Mar 24, 2011
DFEIS End-User Training	ASTI	Quezon City	Metro Manila	87	Mar 28, 2011	Mar 30, 2011
2nd PSTHRIS UAT/Training/Workshop	ASTI	Quezon City	Metro Manila	52	Mar 28, 2011	Mar 31, 2011
System Administrator Training on eDOST Infosys	ASTI	Quezon City	Metro Manila	91	Jun 7, 2011	Jun 9, 2011
DOST Performers UAT workshop/training	ASTI	Quezon City	Metro Manila	55	Jun 15, 2011	Jun 16, 2011
Scholarship, PSTHRIS, and DOST Performers End-User Training	Microtel	Davao City	Davao	132	Jun 27, 2011	Jun 30, 2011
Open Source Network Training on Squid Proxy Administration	ASTI	Quezon City	Metro Manila	20	Apr 4, 2011	Apr 8, 2011
2011 Philippine IPv6 Conference and Training	Makati Shangri-La Manila Hotel	Makati City	Metro Manila	64	Jan 24, 2011	Jan 27, 2011
2011 Philippine IPv6 Technical Training/Workshop	Makati Shangri-La Manila Hotel	Makati City	Metro Manila	53	Jan 25, 011	Jan 27, 2011
UPLB-Biotech Data Warehouse Training	ASTI	Quezon City	Metro Manila	15	Feb 18, 2011	Feb 18, 2011
PsciGrid Training for the Philippine Genome Center	ASTI	Quezon City	Metro Manila	22	Mar 3, 2011	Mar 3, 2011
Open Office for Beginners Training-Quezon City Cluster	ASTI	Quezon City	Metro Manila	17	Mar 2, 2011	Mar 4, 2011
PhP/MySQL for Beginners Pilot Training	ASTI	Quezon City	Metro Manila	5	Mar 3, 2011	Mar 4, 2011
Open Source Training on Voice over IP (VoIP)/ Asterisk IP PBX Administration	ASTI	Quezon City	Metro Manila	18	Apr 11, 2011	Apr 13, 2011
Joomla! CMS for Beginners	PAGASA	Quezon City	Metro Manila	26	Apr 11, 2011	Apr 15, 2011
LibreOffice for DOST Regional Office/ PSTC II	DOST Regional Office/ PSTC II	Tuguegarao	Cagayan	39	May 24, 2011	May 26, 2011

Title of Training	Training Location			No. of Participants	Inclusive Dates Conducted	
	Venue	Municipality/ City	Province		Start	End
IPv6 for Beginners Training	ASTI	Quezon City	Metro Manila	40	Jun 9, 2011	Jun 10, 2011
Tutorial on Linux Administration	ASTI	Quezon City	Metro Manila	1	Jun 29-30, Jul 17, Aug 4, 2011	Jun 29-30, Jul 17, Aug 4, 2011
KM Concepts, Tools, and Technique	ASTI	Quezon City	Metro Manila	17	Jul 28, 2011	Jul 29, 2011
Shell Scripting and Ubuntu Administration	ASTI	Quezon City	Metro Manila	12	Aug 22, 2011	Aug 26, 2011
MySQL for Intermediate	ASTI	Quezon City	Metro Manila	12	Aug 31, 2011	Sep 2, 2011
Java for Developers	ASTI	Quezon City	Metro Manila	12	Sep 5, 2011	Sep 9, 2011
PHP and MySQL for Intermediate Training	PHIVOLCS	Quezon City	Metro Manila	20	Sep 19, 2011	Sep 23, 2011
Basic Linux Training	NAMRIA	Quezon City	Metro Manila	20	Oct 3, 2011	Oct 7, 2011
IPv6 for Beginners	Xavier University	Cagayan de Oro City	Misamis Oriental	40	Oct 12, 2011	Oct 13, 2011
Basic DNS/Wireless Configuration Training	NAMRIA	Fort Bonifacio, Taguig City	Metro Manila	21	Oct 26, 2011	Oct 28, 2011
Basic Training on Routing and Switching	NAMRIA	Fort Bonifacio, Taguig City	Metro Manila	19	Nov 10, 2011	Nov 11, 2011
IPv6 "Train the Trainers" Training Program	ASTI	Quezon City	Metro Manila	18	Nov 28, 2011	Nov 29, 2012
Advanced Training on Voice over IP (VoIP)/ Asterisk IP PBX	NAMRIA	Fort Bonifacio, Taguig City	Metro Manila	19	Nov 14, 2011	Nov 16, 2012
Advanced Training on PC-based routing, Firewall and Squid Proxy	NAMRIA	Fort Bonifacio, Taguig City	Metro Manila	20	Dec 12, 2011	Dec 16, 2012
Yii PHP Framework for GIFMIS (Govt. Integrated Financial Management Information Systems) Development	COA, Batasan	Quezon City	Metro Manila	34	Dec 28, 2011	Dec 28, 2011
Tablet and Android Training for Grade1 Teachers	UP NISMED	Quezon City	Metro Manila	20	Aug 15, 2011	Aug 19, 2011
AWS/ARG Training for DOST	ASTI	Quezon City	Metro Manila	15	May 5, 2011	May 5, 2011
	ASTI	Quezon City	Metro Manila	22	May 6, 2011	May 6, 2011
	DOST RO 7			17	Jun 9, 2011	Jun 9, 2011
	DOST RO 7			15	Jun 10, 2011	Jun 10, 2011
IPv6 Training for Network Administrators	DOST Executive Lounge	Bicutan, Taguig City	Metro Manila	20	Oct 26, 2011	Oct 27, 2011
	ASTI	Quezon City	Metro Manila	20	Nov. 23, 2011	Nov 24, 2011

Table 10. International Scientific Linkages and Networks

Name of Institution	Location/ Country	Nature /Description of Scientific Linkages
Ministry of Agriculture, Fisheries and Forestry Information Network (MAFFIN)	Japan	MAFFIN provides funding support for the establishment and maintenance of the Philippines' link to the Asia-Pacific Advanced Network (APAN)
Keio University	Japan	SOI Asia; AI3; Trainings; information exchange
Delivery of Advanced Network Technology to Europe (DANTE)	United Kingdom	Trans-Eurasia Information Network 3 (TEIN3); Research and education connectivity to Europe and within the Southeast Asia region; Trainings and other capability building initiatives; information exchange
Asia Pacific Network Information Centre (APNIC)	Australia	Internet operation and management; regional networking activities; training; information exchange
Commission of the European Communities Information Society and Media Directorate-General (with Sigma Consultants (Orionis Division) in France, as Coordinator)	Belgium; France	Collaborative Project entitled Support to policy dialogues and strengthening of coooperation with Southeast Asia (SEALING Project)
Japan Aerospace Exploration Agency (JAXA)	Japan	Multicast Experiment Using the Wideband InterNetworking Engineering Test and Demonstration Satellite (WINDS)

Name of Institution	Location/ Country	Nature /Description of Scientific Linkages
Pacific Rim and Grid Middleware Assembly (PRAGMA)	USA	S&T Information Exchange through Grid Forum; ASTI as a member institution
Enabling Grid for E-SciencE (EGEE)	Italy (coordinating country)	Computing resource sharing, and S&T research collaboration
International Open Source Network (IOSN)	National Telehealth Centre/Philippine (ASEAN HQ)	Informal collaboration on open source and open standards, promotion, and training
ASEAN Committee on S&T (COST)	Philippine counterpart (DOST)	S&T Information Exchange through the conduct of/attendance to conferences, S&T exhibition, and collaborative activities between member-countries
APAN (Asia & Pacific Advanced Network), Ltd.	Singapore (APAN secretariat c/o SingAREN)	Participation and promotion of activities relating to the development and deployment of next-generation networking/Internet techology applications and services in research and education, and encouraging the interconnection of advanced networks
National Center for High Performance Computing (NCHC)	Taiwan	S&T Information Exchange through attendance to trainings
Academia Sinica Grid Computing Centre (ASGC)	Taiwan	S&T Information Exchange re: high performance computing through the conduct of/ attendance to conferences, S&T exhibition, and collaborative activities between member-countries

Table 11. External Resources Generated

Donor/Name of Institution	Title/Description of Assistance	Value of Assistance (in Pesos)
DOST	Funding support for the project: "Research Study on Low-Cost Computing Solutions for Primary Education" (PC Tablet I)	496,500
DOST	Funding support for the project "Development of Hybrid Weather Monitoring System and Production of Weather and Rain Automated Stations"	46,682,617
DOST	Funding support for the project " Development of Interactive Science and Mathematics Courseware for Secondary Level Schools "	11,368,452
DOST	Funding support for the project "e-DOST- Open Standards: Program and Change Management and Implementation of Open Standards to DOST"	2,071,189
DOST	Funding support for the project "Development of Overseas Filipinos Information System"	1,422,236
NAMRIA	Funding support for the project "Philippine Geoportal: One Nation One Map Project"	20,428,800
DOST	Funding support for the project "Establishment of a Cost-effective Local Tsunami Warning System for Selected High-Risk Coastal Communities of the Philippines"	7,693,612
DOST	Funding support for the project "Development of a Low-Cost and Locally-Designed Meteorological Buoy" (METBOUY)	7,260,000
NSC	Funding support for the project "Customization of ASTI Infosys for the National Security Council"	1,694,680
DOST	Funding support for the project "Capacity-building in Support of the Pilot Testing of the DOST Tablet Computers (PC Tablet 2)"	14,484,000
CSC	Funding support for the project "Development of the Civil Service Commission Computerized Examination (CSC-COMEX)"	6,303,184
DOST	Funding support for the project "Development of a Field Monitoring (FMON) System"	2,121,651
PREGINET Partner Institutions	PREGINET connectivity/subscription fees	14,905,484
Government/Private/Academic Institutions	Fees from trainings conducted	2,205,789
Various individuals/institutions	Rental fees, interest, refunds, etc.	533,709
DOST	Fabrication/Production of NSTW 2011 ASTI exhibit materials/fixtures	130,078
DOST RO VI	Fabrication of units of Automated Rain Gauge	300,000
LGU MOLAVE	Fabrication of units of Automated Rain Gauge	180,000
DBM	Additional funds from full release of agency budget, additional PS, RLIP, SSL III	65,711,603

Glossary

3D	Three-dimensional space
ADMU	Ateneo de Manila University
AI3	Asian Internet Interconnection Initiatives
APAN	Asia-Pacific Advanced Network
APNIC	Asia Pacific Network Information Centre
APRICOT	Asia Pacific Regional Internet Conference on Operational Technologies
ARG	Automatic Rain Gauges
ARIB	Association of Radio Industries and Business
ASA	Advice of Sub Allotment
ASEAN	Association of South East Asian Nations
ASTI	Advanced Science and Technology Institute
AWS	Automated Weather Stations
BDU	Business Development Unit
BI	Bureau of Immigration
BPS	Bureau of Product Standards
CIPI	Certification International Philippines, Incorporated
CO	Capital Outlay
COMELEC	Commission on Election
CONNECT	COllaboration for Network-eNabled Education, Culture, Technology and Sciences
CoP	Communities of Practice
CSC-COMEX	CSC Computerized Examination
CSD	Computer Software Division
CY	Calendar Year
DCPIS	DOST Clients/Partners Information System
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DFA	Department of Foreign Affairs
DFEIS	DOST Facilities and Equipment Information System
DNS	Domain Name System
DOST	Department of Science and Technology
DOST-CO	DOST Central Office
DOST-PEZA	DOST Philippine Economic Zone Authority
DOST-PMEDSO	DOST's Project Management and Engineering Design Services Office
DREAM	Nationwide Disaster Risk Exposure, Assessment and Mitigation
DSM	Digital Surface Model
DSOIS	DOST Scholarships Online Information System
DTM	Digital Terrain Model
EDC	Energy Development Corporation
eDOST-INFRA	Upgrading of DOST ICT Infrastructure and Interconnectivity Network
ESG	Embedded Systems Group
EU	European Union
FAD	Finance and Administrative Division
FMON	Field Monitoring
FP7	Seventh Framework Programme
G-DAT	GSM/GPRS Data Acquisition Terminal
GAA	General Appropriations Act
GHRIS	Government Human Resource Information System
GIA	Grants-In-Aid
GIFMIS	Government Integrated Financial Management Information Systems
GSM/GPRS	Global Systems for Mobile Communication / General Packet Radio Service
HNICEM	Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management
HPC	High Performance Computing
HPRC	Boosting Grid Computing Using Reconfigurable Hardware Technology
ICT	Information and Communications Technology
Ideal-IST	International ICT Partner Search Network
IDU	Indoor Unit
InSAR	Interferometric Synthetic Aperture Radar
IPv6	Internet Protocol version 6
IQA	Internal Quality Audit
ISO	International Standards Organization / International Organization for Standardization
JAXA	Japan Aerospace Exploration Agency
K-Agrinet	Knowledge Networking Towards Enterprising Agricultural Communities : e-Farm and e-Consortia
KBase	Knowledge Base
KM	Knowledge Management
KMD	Knowledge Management Division
LGUs	Local Government Units
LiDAR	Light Detection and Ranging
LLDA	Laguna Lake Development Authority
MAFFIN	Ministry of Agriculture, Forestry and Fisheries Information Network
MDH	Manila Doctors Hospital
MIRDC	Metals Industry Research and Development Center
MIS	Management Information Systems
MMDA	Metro Manila Development Authority
MOOE	Maintenance and Other Operating Expenses
MPBF	Miscellaneous Personnel Benefits Fund
NAMRIA	National Mapping and Resource Information Authority
NCC	National Computer Center
NCR	National Capital Region
NCR	Nonconformity Report
NOAH	Nationwide Operational Assessment of Hazards
NPS	National Payroll System
NREN	National Research and Eudcation Network
NSC	National Security Council
OD	Office of the Director
OFIS	Overseas Filipinos Information System
OFs	Overseas Filipinos
OPRT	Overseas Preparedness and Response Team

OSG	Office of the Solicitor General
OWWA	Overseas Workers Welfare Administration
PAGASA	Philippine Atmospheric, Geophysical, and Astronomical Services Administration
PCAARRD	Philippine Council for Agriculture and Aquatic and Natural Resources Research and Development
PCIEERD	Philippine Council for Industry, Energy and Emerging Technology Research and Development
DOST PerforMERS	DOST Performance Monitoring, Evaluation and Reporting System
PES-ITD	Planning and Evaluation Service - Information Technology Division
PhilRice	Philippine Rice Research Institute
PHIVOLCS	Philippine Institute of Volcanology and Seismology
PIU	Project Implementation Unit
PNRI	Philippine Nuclear Research Institute
POEA	Philippine Overseas Employment Administration
PRC	Professional Regulation Commission
PREDICT	Philippine Real-Time Environment Data Acquisition and Interpretation for Climate-Related Tragedy Prevention and Mitigation
PREGINET	Philippine Research, Education, and Government Information Network
PS	Personnel Services
PSHS	Philippine Science High School
PSTCs	Provincial Science and Technology Centers
PSTHRIS	Philippine S&T Human Resource Information System
PTZ	Pan Tilt Zoom
QMS	Quality Management System
R&D	Research and Development
RDD	Research and Development Division
RDI	Research and Development Institution
RENs	Research and Education Networks
ROs	Regional Offices
S&T	Science and Technology
SAD	Systems Analysis and Design
SEACOOP	Further Developing Strategic Science and Technology Cooperation with Southeast Asia on Information and Communications Technology
SEALING	Support to Policy Dialogues and Strengthening with Southeast Asia
SEI	Science Education Institute
SOI	School-on-the-Internet
SRS	Software Requirements Specification
SSED	Solutions and Services Engineering Division
TBI	Technology Business Incubator
TEIN 3	Trans Eurasia Information Network 3
TRC	Technology Resource Center
TWG	Technical Working Group
UAT	User Acceptance Testing
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UP	University of the Philippines
UP MSI	University of the Philippines Marine Science Institute
UP NIGS	University of the Philippines National Institute of Geological Sciences
UP NISMED	UP National Institute for Science and Mathematics Education Development
UPLB	University of the Philippines Los Baños
UPLB-BIOTECH	UPLB National Institute of Molecular Biology and Biotechnology
VMMC	Veterans Memorial Medical Center
VoIP	Voice over Internet Protocol
WINDS	Multicast Experiment using the Wideband InterNetworking Engineering and Demonstration Satellite Project
WLMS	Water Level Monitoring Station
WMC	Webmasters Consortium

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